

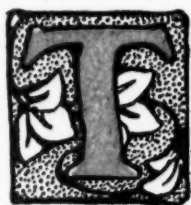
MOTOR AGE

Vol. VIII. No. 8

CHICAGO, AUGUST 24, 1905

Ten Cents a Copy

Packard



THE Larkin Company (soap makers) of Buffalo, N. Y., bought a Packard truck in March last. They have given it three months' service, and the telegram reproduced herewith tells the results.

Send for demonstration reports of actual work performed, with cost of operation.

PACKARD MOTOR CAR CO., Dept. 2, DETROIT, MICH.

POSTAL TELEGRAPH COMMERCIAL CABLES
TELEGRAM 121

The Postal Telegraph Cable Company (Incorporated in the United States) is the only company in the world that carries on the business of transmitting telegrams by cable. It is the only company in the world that carries on the business of transmitting telegrams by cable. It is the only company in the world that carries on the business of transmitting telegrams by cable.

Enter order three additional trucks for Larkin Company with the same as specified. Telegraph delivery dates quick.

There are reasons why

MORGAN & WRIGHT TIRES
ARE GOOD TIRES

Reason
5

DURABILITY.

¶ Lastly, a good tire is necessarily a durable tire—capable of withstanding all sorts of rough usage without making any ado about it.

¶ Durableness is dependent—absolutely dependent—upon the construction of the tire as a whole—there can be no weak spots.

¶ Toughness, superior fabric, adequate amalgamation and a proper degree of pliability are the essential features in a durable tire, and we claim and know and have proven that these are the paramount elements in Morgan & Wright tires.

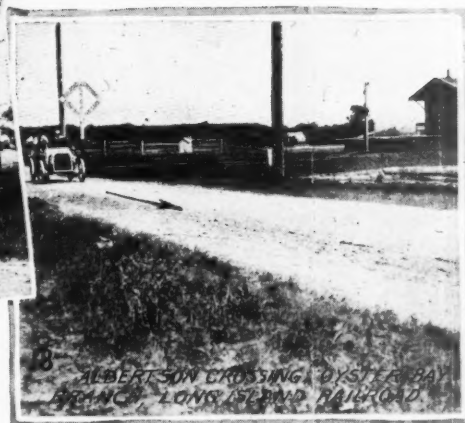
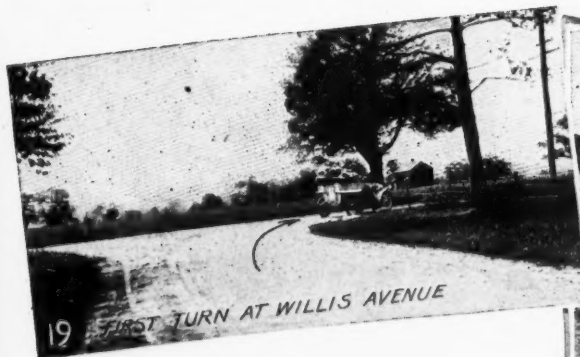
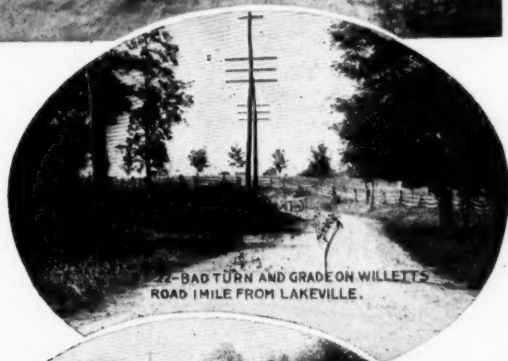
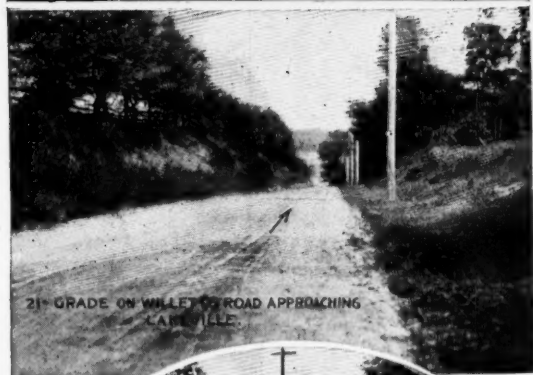
¶ And because they are the paramount elements, **MORGAN & WRIGHT TIRES ARE GOOD TIRES.**

MORGAN & WRIGHT

19 North May St. — **CHICAGO** — 309 Michigan Ave.

NEW YORK—214 W. 47th St.
SYRACUSE—212-214 S. Clinton St.
PHILADELPHIA—Cor. Broad and Vine Sts.
BOSTON—243 Columbus Av.
CLEVELAND—347 Huron St.
DAYTON—417 E. 5th St.
DETROIT—265 Jefferson Av.

MINNEAPOLIS—717-719 Hennepin Av.
ATLANTA—35 Edgewood Av.
ST. LOUIS—538 Vandeventer Av.
DENVER—1562 Broadway.
LOS ANGELES—940 S. Main St.
SAN FRANCISCO—1067 Mission St.

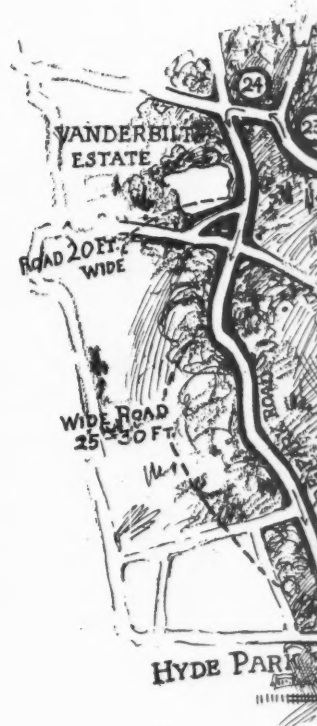


VANDERBILT CUP RACE SUPPLEMENT

 MOTOR AGE

TABLE OF DISTANCES

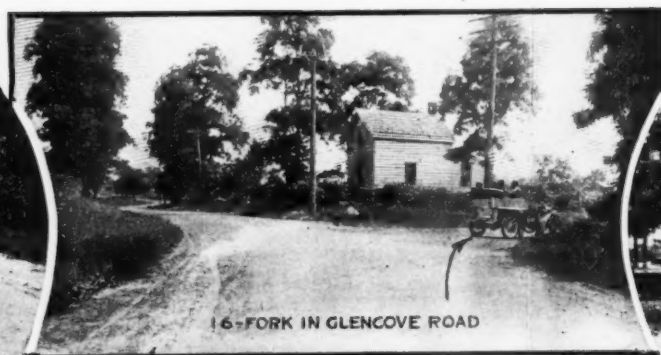
Hyde Park to Jericho, 9 1-2 Miles
Jericho to East Norwich, 3 1-2 Miles
East Norwich to Greenvale (Bull's Head),
5 1-2 Miles
Greenvale to Turn into I. U. Willetts Road,
3 Miles
Turn into I. U. Willetts Road to Lakeville,
4 1-2 Miles
Lakeville to Hyde Park, 3 Miles



(SEE PAGES 4 AND 5.)



17-TURN INTO U.WILLETTS ROAD

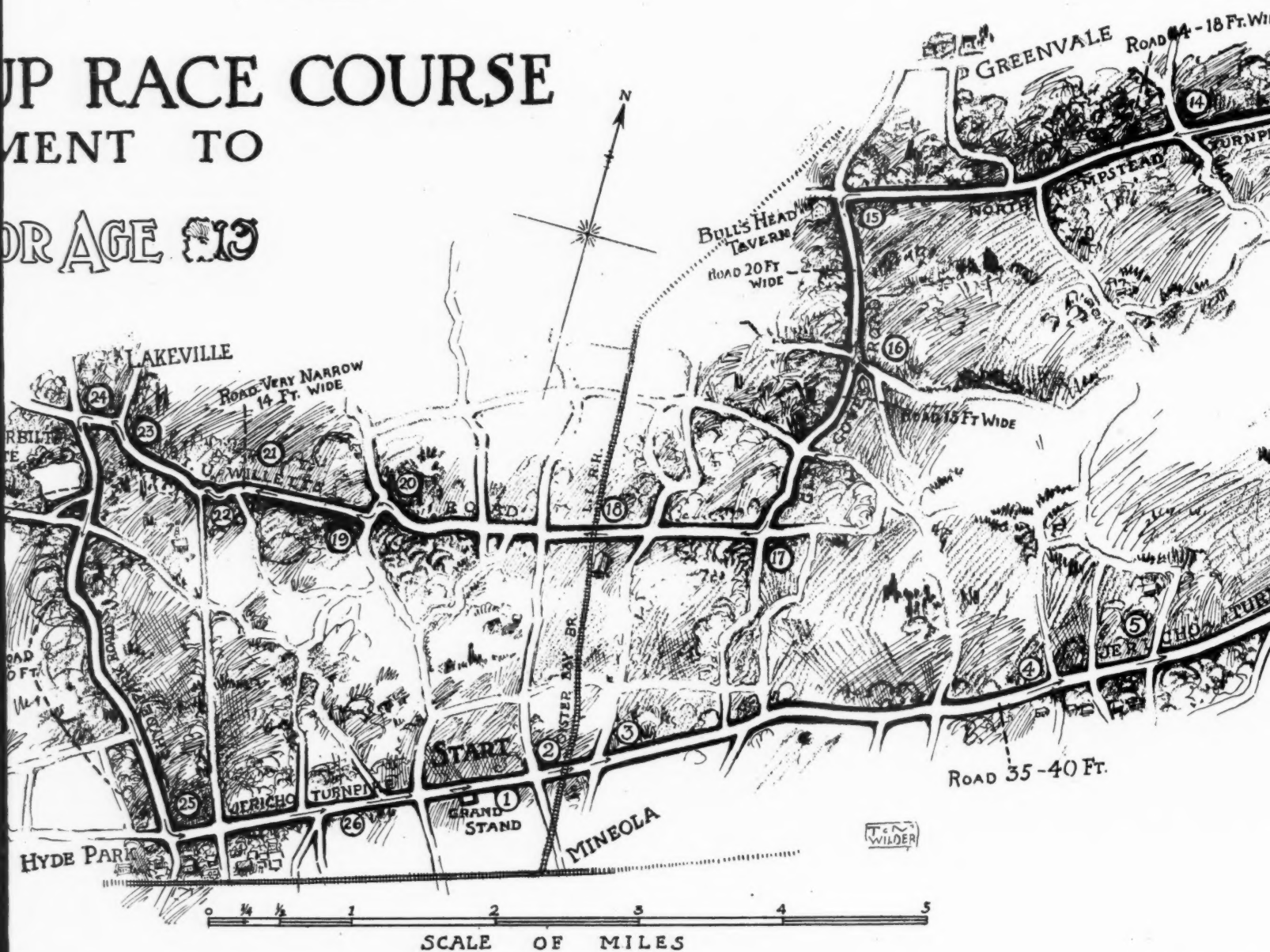


16-FORK IN GLENCOVE ROAD

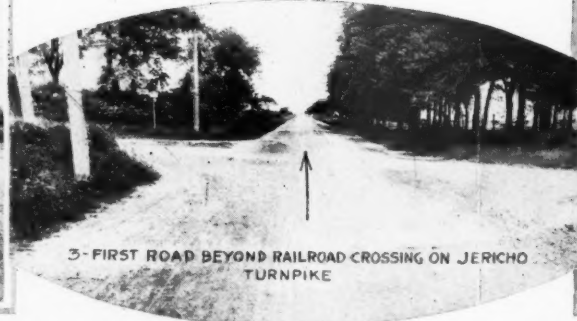


15-TURN AT BULL'S HEAD TAV

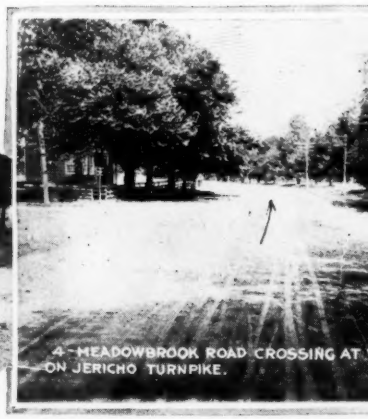
UP RACE COURSE MENT TO OR AGE 19



2-MINEOLA RAILROAD CROSSING



3-FIRST ROAD BEYOND RAILROAD CROSSING ON JERICHO TURNPIKE



4-MEADOWBROOK ROAD CROSSING AT ON JERICHO TURNPIKE



14 NARROW STRETCH IN NORTH HEMSTEAD TURNPIKE



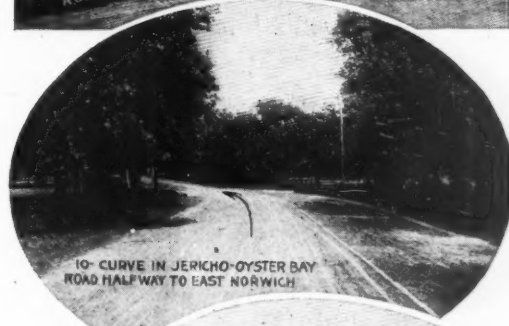
13 FORK ON NORTH HEMSTEAD TURNPIKE WEST OF EAST NORWICH



12 TURN AT EAST NORWICH



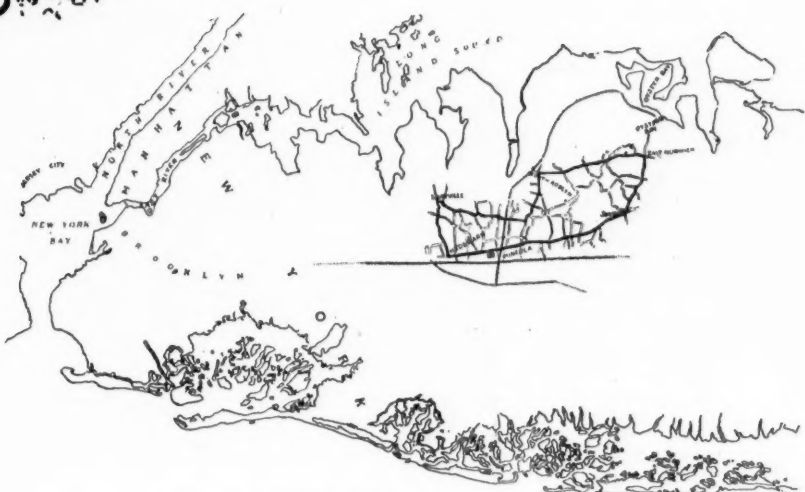
11 CHURCH ON JERICO-OYSTER BAY ROAD



10 CURVE IN JERICO-OYSTER BAY ROAD HALF WAY TO EAST NORWICH



9 CURVE IN JERICO-OYSTER BAY ROAD ON WAY TO EAST NORWICH



RELATIVE LOCATION OF THE COURSE ON LONG ISLAND



8 FORK JUST NORTH OF JERICO



CROSSING AT WESTBURY



5 WESTBURY-WHEATLEY ROAD CROSSING JERICO TURNPIKE



6 ONLY TURN ON JERICO TURNPIKE EAST OF WESTBURY-WHEATLEY ROAD



7 TURNING AT JERICO

gust 24, 1905



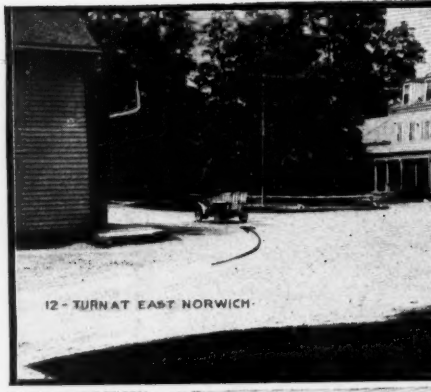
15-TURN AT BULL'S HEAD TAVERN.



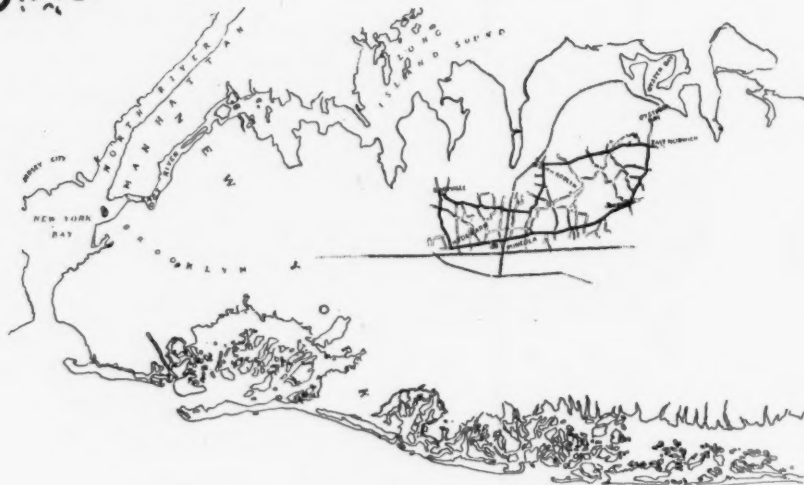
14 NARROW STRETCH IN NORTH HEMSTEAD TURNPIKE



13 FORK ON NORTH HEMSTEAD TURNPIKE WEST OF EAST NORWICH



12-TURN AT EAST NORWICH



RELATIVE LOCATION OF THE COURSE ON LONG ISLAND



10-CURVE IN JERICO-OYSTER BAY ROAD HALFWAY TO EAST NORWICH



9-CURVE IN JERICO-OYSTER BAY ROAD ON WAY TO EAST NORWICH



8-FORK JUST NORTH OF JERICO.



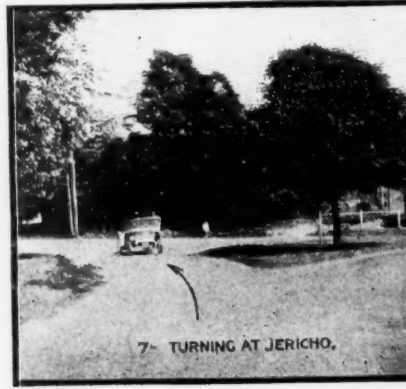
11-ROAD CROSSING AT WESTBURY JERICO TURNPIKE.



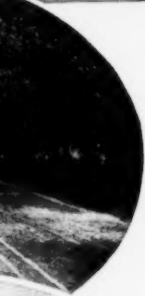
5. WESTBURY-WHEATLEY ROAD CROSSING JERICO TURNPIKE



6. ONLY TURN ON JERICO TURNPIKE EAST OF WESTBURY-WHEATLEY ROAD



7-TURNING AT JERICO.



MOTOR AGE

VOL. VIII. No. 8

CHICAGO, AUGUST 24, 1905

\$2.00 Per Year

TRACK RACING CONDEMNED TO DIE

New York, Aug. 22—The sentiment of the press, trade and automobilism in this city is practically unanimous that the track racing game is not worth the sacrifice of life and limb its promotion during the past 2 years has occasioned. Some extremists in the present state of excited feeling caused by the recent accidents to Jay, Kiser and Oldfield, insist that the A. A. A. should sanction no more track racing of any kind. Others, who view the situation more calmly, suggest that there is no necessity of placing an embargo, except when the racing of the dangerous high speed machines, which the game has created, and that contests of touring and stock cars, capable only of speed within reason, present practically no danger, furnish good sport and a useful test and need not be prohibited. Just how the line is to be drawn they do not at present attempt to suggest, except that cars be limited to those possessing a safe speed limit.

With Ormond available for record breaking, Cape May and perhaps other beaches for straightaway racing, and the annual Vanderbilt contest for a supreme test of cars, it is argued that the A. A. A. can furnish sufficient opportunity of satisfying speed ambitions and tests without resorting to the weekly use of oval tracks throughout the land.

Walter Christie was not inclined to think track racing, should the races of high speed machines be limited to two cars, was too dangerous to continue. "The dust, to my mind, alone makes the racing dangerous," said he. "In a track race the danger lasts but a couple of minutes, which, in the Vanderbilt races, it is present for 6 hours."

Chairman Morrell said he did not care to be interviewed on the subject at this time as track racing was, to a certain extent, an A.

PROMINENT MOTORISTS FROM ALL PARTS OF THE COUNTRY PASS SENTENCE ON A MAN-KILLING PASTIME

A. A. department, whose head he happened to be, and that he thought it would be better taste for him to withhold comment on the subject for the present. It was evident he thought it best to discuss the matter first with his associates on the board, who would have to take action in the matter, if executive steps were to be taken.

A. G. Batchelder, who besides his duties as general secretary of the A. A. A., serves as secretary of the racing board, said: "The dangers of track racing always have been very apparent to me. I do not think the game is worth the candle; in fact, one hesitates even indirectly to encourage drivers to take the chances that are involved in the swirl of dust. The winner is the man who takes the turns without shutting off the power of his monster, and the multi-cylindrical flyers cannot go much under the minute without endangering the limb and perhaps the life of the operator. Track racing has become a 'gate' proposition pure and simple, as at present conducted and, though it is dying a natural death, perhaps its demise should be hurried by the governing body declining to sanction any more contests around dusty mile courses."

Alfred Reeves, secretary of the Morris Park Motor Club, a veteran in track racing promotion, said. "The lamentable accidents in which Barney Oldfield, Earl Kiser and Webb Jay figured indicate very clearly, that racing high powered cars on circular tracks has reached the limit. It was to be expected that sooner or later cars would be constructed too powerful for whirling around corners and that time is evidently here. It seems to me that future racing on tracks must be confined to touring cars that travel not faster than a 1:10 pace, while the big racing machines must make their efforts on the straight roads and beaches. Men of daring, like Oldfield, Kiser and Jay, are too scarce to be allowed to travel at 70 miles an hour on a circular course, and every motorist and good sportsman will hope that no more such accidents will take place. Track racing came into vogue because people wished to see machines go fast and there was no other place where

they could be speeded. It has had its inning and it is evident that only low powered cars can be used on circular tracks with safety."

The undercurrent of opinion and probability is decidedly against further track racing in the metropolitan courses. The present season, expected to be the greatest in the history of the sport, has proved a veritable frost. Gate receipts fell far below expectations and the sport was generally spasmodic and inferior.

Cleveland, O., Aug. 21—Seldom has there and the attendance gradually diminished. been a greater wave of public indignation at anything pertaining to the sporting side of life than arose in this city after the accident to Earl Kiser at Glenville track a week ago, and it has multiplied until it has become apparent that automobile track racing with special racing cars will no longer be tolerated, as a result of the accident to Webb Jay that followed so close on the trail of the wreck here. If the daily newspapers are mirrors of public opinion, then truly the Cleveland public has had enough, for the editorials and still more telling cartoons of the past few days tell a story of disgust that can not be misunderstood. Except among those who have had a mercenary interest in the sport, it is hard to find any one who has a good word for the game in any form. All of the most prominent enthusiasts of the past admit that it can not go on in its present form, and a number of them suggest changes and regulations that might be instituted to take some of the curse off from the game. But as a rule the changes are impractical because of the expense involved in making them, and even if they were not they would fail because the lawmakers of both city and state are preparing to legislate against racing on circular tracks, while the manufacturers who have supported the game are declaring that they will no longer enter or build cars for track races.

"You can say we are out of track racing for good. I do not say that we shall withdraw from road racing because we have not had time to confer in this matter. Road racing does not seem to be as dangerous as the other game, but I think it will only be a matter of a short time before this sport will be given up, because there is no denying that it is hazardous to both drivers and spectators."—Windsor T. White, White Sewing Machine Co.

"I don't believe in the racing game anyway. I can see no utility in it. It does not demonstrate anything of value to the true automobile sport or to the industry. The mere matter of speed does not need demonstration in that way. Every one knows that automobiles can be built to run faster than they can be driven with safety, so what is the use of such contests."—W. C. Temple, ex-chairman A. A. A. racing board.

"I have promised my mother that I will never race again, although I had planned at first to be the only one-legged driver in the business. I am out of it for good and I shall keep this vow. There is nothing in the game for drivers—not a thing. It's a little advertising for the car that some foolhardy fellow drives. If a man reels off a mile in less than a minute he is praised from coast to coast, but that is all it amounts to."—Earl H. Kiser, automobile racing man.

Windsor T. White, general manager of the White Sewing Machine Co., and chairman of the Cleveland Automobile Club race meet committee, returned to Cleveland this morning after spending the previous evening at the bedside of the battered and almost lifeless form that was formerly one of America's champions. He says Webb Jay's condition is still critical, but the physicians have hopes for his recovery. It goes without saying that Jay will never race again—a broken-hearted wife who, hoping against hope, left here late Saturday night on the limited for Buffalo will vouch for that—and if the man recovers at all it will be one of the miracles of modern surgery.

Mr. White said to a MOTOR AGE representative: "You can say we are out of track racing for good. The Whistler was not injured in the least, but it will never again be entered in a track event. I do not say that we shall withdraw from road racing because we have not had time to confer in this matter. We have entered a car and have a new machine which we believe can win; at the same time I do not say it will compete. Road racing does not seem to be as dangerous as the other game, but I think it will only be a matter of a short time before this sport will be given up, because there is no denying that it is hazardous to both drivers and spectators."

Out at St. Clair hospital, swathed in bandages from head to foot and scarcely able to lift his head lies what remains of another erstwhile champion—Earl Kiser. His sturdy left leg lies buried in a Dayton cemetery. Earl saw some newspaper friends for the first time yesterday. He had just been informed of the accident to his trackmate and he was horror stricken. Bursting into tears he said, after he could recover himself: "Boys, I am out of the game for good. I have promised my mother that I will never race again, although I had planned at first to be the only one-legged driver in the business. I am out of it for good and I shall keep this vow. There is nothing in the game for drivers—not a thing. It's a little advertising for the car that some foolhardy fellow drives. If a man reels off a mile in less than a minute he is praised from coast to coast, but that is all it amounts to in the long run."

L. H. Kittredge, general manager of the Peerless Motor Car Co., said he was not an enthusiast of the racing game and that his concern would never have started in the game if they had not been hounded by race promoters who were anxious to have the public satisfied with racing. "I think that the promoters and the public are to blame for the disastrous results," he said. "I believe there is equally as much danger in straightaway racing as in the other. You never hear of a straightaway race but what some one is injured, and if there were as many of these races as there are track events there would be even more bad accidents."

Asked if his company would discontinue the manufacture of racing cars he said: "I can not say that we will. If the public demands fast racing; if the promoters continue to give meets and if other manufacturers continue to build speed killers, we may have to follow suit, but you can say the Peerless company does not favor the game."

From the state legislature as well as from the city councilmen come reports of legislation to prohibit track racing. Representatives Sawyer and Eubanks have both announced that they will endeavor to get such bills through the next legislature. Mr. Eubanks thinks possibly it might be unconstitutional to try to prevent a man from putting his own life in jeopardy, but he does not think this is the case; there are stringent laws against suicide, which he thinks is in the same class. He believes that at track races the spectators as well as the drivers are in jeopardy and that a law would hold.

C. W. Mears, of the Winton company, says that there is little chance that the old Bullet will ever again appear on the track. No steps will be taken to repair it unless Earl Kiser expresses a wish to have it done, and as Kiser says he is through, it will probably not be put into commission again as a racing tool.

TOLEDOANS AGAINST RACING

Toledo, O., Aug. 22—Since Oldfield met with an accident at the Detroit races, Kiser at the Cleveland meet and Jay at Buffalo, Toledoans have been outspoken against the further continuance of the sport.

"Automobile racing is worse than bull fighting," said A. E. Schaff, of the Pope Motor Car Co. "The racing game is a fake, pure and simple, a sort of a hippodrome, and I cannot see where the sport comes in for giving any marked benefit to the companies manufacturing this class of cars. One thing is sure, and that is that the durability of a racing machine does not always demonstrate what is to be found in automobiles put out by the same concern that manufactures the racer. This is not the opinion of one man, but it is the opinion of nearly all those engaged in the manufacture of automobiles today. You see a manufacturer of cars is forced into the game by fellows who carry no interests in any of the automobile plants of the country. Their's is a selfish interest, for they are not so much interested in the industry as they are in the gate receipts. I do not believe automobile races, as they are being carried on at the various points, should be classed as legitimate sport. Neither do I believe it of any benefit for the manufacturers of automobiles to divert any of their time to the manufacturing of racing machines. When we turn out a new racing machine at the Pope-Toledo plant Tom, Dick and Harry of all the floors leave their machines to view the antics of the new speeder. This means considerable loss of time on many occasions. Do you think for one moment

"I think that the promoters and the public are to blame for the disastrous results. If the public demands fast racing; if the promoters continue to give meets and if other manufacturers continue to build speed killers, we may have to follow suit, but you can say the Peerless company does not favor the game."—L. H. Kittredge, Peerless Motor Car Co.

"Automobile racing is worse than bull fighting. The racing game is a fake, pure and simple, a sort of a hippodrome, and I cannot see where the sport comes in for giving any marked benefit to the companies manufacturing this class of cars. The durability of a racing machine does not always demonstrate what is to be found in automobiles put out by the same concern that manufactures the racer."—A. E. Schaff, Pope Motor Car Co.

that the large buggy and sulky concerns of the country would invite the drivers of race horses to bring their steeds to the plants, hitch up to the sulkies which may have been manufactured that a demonstration of the horse and the vehicle might be made in full view of the employees of the plant? It would not be profitable. Neither is it profitable for automobile plants to turn out racing machines and continue their demonstration in and about the plant. I do not believe that any concern gets back in trade and profit the money expended on racing machines and race meets. Today's racing is a deplorable and certainly hazardous sport and it should be abandoned at once. And I believe it will be in a short time."

Ezra Kirk, of the Kirk-Hall Co.: "I have always said they shouldn't do it. What's the use? What good comes of it?"

"I think the same today about automobile races as I have been thinking for the past 2 or 3 years," said Burton O. Gamble, general manager of the Toledo Motor Car Co. "It is a mighty dangerous sport for both drivers and people, and I don't see where it helps the business of the manufacturer or the dealer. When a racing machine is chased over a track at the rate of a mile in less than a minute, it is rank foolishness. Drivers foolish enough to drive a machine at such high rates of speed may be secured, but I look at the whole thing as being very foolish. I think the craze will soon die and then it will be out of the way."

CHICAGO MEET ABANDONED

Chicago, Aug. 22—The Chicago Automobile Club this afternoon decided to abandon its plan of running a fall meet, sanction for which had been granted and which had been approved by the board of directors only last week. The accidents to Oldfield, Kiser and Jay and the consequent agitation all over the country against racing on circular tracks led to this step being taken. L. E. Meyers, chairman of the club's racing board, was the one responsible for the action. He took up the matter on his own accord, calling up the directors of the club by telephone and securing their consent to calling off the meet.

"Personally I am opposed to track racing and am glad the meet has been abandoned," said Chairman Meyers. "We have decided to give up all idea of running a meet such as we scheduled. Instead we will have a matinee for members only some time next month out at Harlem. None of the stars will be there and we will have a set of scrub races for our own amusement. We will all carry our lunches and have one big picnic and a dance to wind up the day. The racing board will not be discharged, for we are considering the advisability of going out into the country somewhere and finding ground big enough for us to build a track to be used ex-

clusively for automobile racing. It will be at least a 2-mile circuit, with great wide turns, well banked and with no fences to act as death traps. By the liberal use of oil we can do away with the dust evil. But for this other kind of racing on the present tracks, I am glad to say we are through with it."

Before the club decided to give up the meet idea several of its members expressed their views on the racing subject.

"I don't think these accidents will make the slightest difference in the racing game," said John Farson. "The people that want to see the races will go just the same, and the people that don't like them will stay away. There are too many men anxious to try their skill and nerve on the track in competition with other drivers for the sport to be abandoned for a long time at least. Of course, a straightaway track is preferable to a circular one, as far as safety for the racers and onlookers is concerned, but there are only a few places where a straightaway can be had, and the circular track will continue to be used, in my opinion, in spite of accidents. In view of the fact that our club has voted to hold a race meet in the near future, I don't care to express my personal opinion as to whether the sport should be abandoned or not."

"This accident won't make a bit of difference," said Jerry Ellis, a member of the racing board. "We are going to hold our October meet, and hold it on a circular track. But we are going to have the track properly oiled, so that the racers won't be blinded by the dust from the cars, as was the case with Webb Jay. If the track at Buffalo had been well oiled that accident would not have happened. There will, of course, be the usual amount of panicky talk and excitement, and a few people who are not interested in the racing game may cut up a bit about the dangers of track racing, and so on, but it is too good a sport to be abandoned on account of a few accidents. I am sure there will be no change of program as far as our intentions are concerned."

VIEWS EXPRESSED IN BUFFALO

Buffalo, N. Y., Aug. 20.—Immediately after the accident to Webb Jay on Friday afternoon a storm of protest against automobile track racing as it has been conducted in this country arose among the automobile men who had been attracted to Buffalo for the races.

One of the strongest statements on the subject was made by William C. Temple, of Pittsburg, former chairman of the racing board of the A. A. A. and referee of the races here. To a MOTOR AGE man Mr. Temple said:

"Automobile races never should be run on circular tracks which are dusty or bounded by fences. Never again will I officiate at any races run under the conditions which have prevailed up to the present time.

"It seems to me that future racing on tracks must be confined to touring cars that travel not faster than a 1:10 pace, while the big racing machines must make their efforts on the straight roads and beaches. It has had its inning and it is evident that only low powered cars can be used on tracks in safety."—Alfred Reeves, secretary Morris Park Motor Club.

"Reports of accidents tend to intimidate possible buyers rather than to encourage them. The man who might buy an automobile reads that some expert has failed to guide his car aright and he considers that he himself might be tempted to speed the machine in the same way, thus running too great a risk of death. He is afraid to take the chance. The emphasizing of the speed of cars hurts the automobile business."—W. C. Jaynes, president National Association Automobile Dealers.

"I don't believe in the racing game anyway. I can see no utility in it. It does not demonstrate anything of value to the true automobile sport or to the industry. The mere matter of speed does not need demonstration in that way. Every one knows that automobiles can be built to run faster than they can be driven with safety, so what is the use of such contests.

"In the second place the track racing game does not assist in the development of the automobile along the line of utility for touring purposes, which I believe to be the true line of development for the automobile.

"In the third place I am opposed to track racing for automobiles because it jeopardizes the lives, not only of the fellows who drive the cars, but of spectators. Track racing of this dangerous character should be prohibited by law immediately except in cases where the tracks have been rendered practically dustless by the application of oil or some other dressing."

Charles Clifton, president of the Association of Licensed Automobile Manufacturers, said: "I am and have always been unqualifiedly against track racing. I do not believe there is enough interest in the game to make it a lasting sport. This seems to me the logical time to quit it. Why not stop it before it dies. If it is continued it will sooner or later get its death blow from the public because of its great and unwarranted risks. When the patronage of the public fails, the promoters' revenue will disappear and the thing will stop, but it seems to me better to stop before that point is reached. I am willing to suspend an expression of opinion about long distance racing but I believe the track racing game is manifestly the more dangerous and should not be continued."

William E. Metzger, of Detroit, a judge at the races here, said: "I do not intend to officiate again at a race meet run under the conditions that generally prevail nowadays. The game is too dangerous. It is very expensive for the manufacturers, some of whom have patronized it and I have been given to understand that some of the companies whose cars are entered in these races in Buffalo intend to abandon the game at once. I think the game near its end."

The view of the automobile dealer was stated by W. C. Jaynes, president of the new National Association of Automobile Dealers. He said: "Track racing by motors does no good to the automobile business. Frequent reports of accidents tend to intimidate possible buyers rather than to encourage them. The man who might buy an automobile reads that some expert has failed to guide his car aright and he considers that he himself might be tempted to speed the machine in the same way, thus running too great a risk of death. He is afraid to take the chance. To my mind,

the emphasizing of the speed of cars hurts the automobile business in more ways than one."

Augustus H. Knoll, president of the Automobile Club of Buffalo and of the racing association which conducted the meeting here this year and last, said: "I think it doubtful that any more races will be held in this city. The risk of financial loss to the promoters is great, while the risk taken by the drivers makes any profit that may accrue look very much like blood money."

Dai H. Lewis, manager of the Buffalo races, expressed the opinion that no more races would be held in Buffalo.

William H. Hotchkiss, president of the New York State Automobile Association, made a public statement on Friday after the accident to Webb Jay that he would go to the Supreme court in the effort to restrain by injunction the holding of any more track races in this city.

Mr. Hotchkiss said for MOTOR AGE: "This motor track racing is too dangerous to be a sport. It is little short of suicide for men to drive fast cars on circular tracks in clouds of dust and it is wrong to send men into such contests.

"The events of the last two or three weeks have convinced me that the game must be stopped, partly because the more accidents there are the more prejudice will be aroused in the public mind against automobiles and the more restrictive legislation we shall encounter."

OPINIONS FROM DETROIT

Detroit, Mich., Aug. 23.—Special—The agitation against automobile racing on circular tracks has reached this city, but so far the Wolverines have taken no decided stand against the continuance of the game. Detroit has always been interested in racing and in a way has always fathered Barney Oldfield, who really got his start here. Then, too, there is a curiosity to see that much-talked-of car built by Henry Ford extend itself not only on the beach but on a circular track. Race meets here have always been full-house performances in spite of the many accidents that have occurred, but yet the public are apparently not satisfied, if the expressions heard during the last day or so can be taken as a criterion. The dust is condemned, but not racing on an oval track, many motorists feeling certain that with oiled courses the danger would be eliminated.

The Packard Motor Car Co., which built the Gray Wolf and whose big car established a 1,000-mile non-stop record, makes only a brief statement at this time. Inquiry at the factory today produced the following from the company: "We are opposed to track racing, but prefer to make no brief statement."

Henry W. Ford talked a little more freely:

"I am of the opinion that if the inside fences were removed and lighter cars used, racing on circular tracks would be reasonably safe," he said.

"The dangers of track racing always have been very apparent to me. I do not think the game is worth the candle. Track racing has become a 'gate' proposition pure and simple, as at present conducted and, though it is dying a natural death, perhaps its demise should be hurried by the governing body declining to sanction any more contests around dusty mile courses."—A. G. Batchelder, secretary A. A. A.

VANDERBILT COURSE FAULTY

Critical Examination Shows It Is Shorter, Has Poorer Road Foundation, Is More Sinuous, Has Heavier Grades and More Turns Than Circuit Used for Last Year's Race

New York, Aug. 21—There can be no question, after carefully studying the conditions of the course selected for the Vanderbilt cup race this year, that the course is several degrees worse than that of last year. It is shorter, much of it has a poorer road foundation, it is more sinuous, it has heavier grades, it has more turns. These five indictments have against them and in favor of the new course the fact that it avoids any considerable settlement and that there is less of popular objection to be overcome than in probably any other 29 miles of possible road race course in the United States. The reason for this is found in the fact that the course extends past four large estates, the owners of which are broad enough to see the good effects of a road race and to encourage one.

As nearly every motorist knows, this year's course is laid out just to the northward of last year's route. The northern leg of 1904 is the southern leg in 1905. This is the Jericho turnpike, the best road, taken all in all, on the northern side of Long Island. It is of macadam, fairly straight and wide enough—35 to 40 feet—for racing cars to pass ad libitum. To have failed to use this good road would have been almost a crime.

Here the new course begins. The actual starting point—i. e., the official stand—will be placed north of Mineola, about 3000 feet west of the Mineola road crossing. The public stand will be on the south side of the turnpike—outside the course—while the officials will have a stand on the north side of the road, 1. This location is almost due north of the Garden City hotel. This will make the stand readily accessible to the thousands of guests, most of whom will rendezvous at the Garden City hotel. Probably that hostelry will again be the headquarters of the racing board, which transforms itself into the cup commission for this occasion only. Already the American drivers are taking runs over the course in touring cars and getting familiar with its many quirks and turns. Incidentally they are keeping their eyes open for chances to locate training quarters to the best advantage.

The course, as mentioned before, lies along the Jericho turnpike to the hamlet of that name. There is little new to be said of the turnpike. It is in rather better condition than it was a month or two before last year's race and it will not require so much work by the local road-menders. This is one effect of the work done last year. The roadbed has remained good, due in part to the use of oil last year and in part to some work done as soon as the frost was out of the ground this spring.

A short distance to the eastward is Krug's road-house, where the Mineola highway crosses the Jericho turnpike. This hotel will be remembered as the home of the Packard and Pope-Toledo cars last year. Recently the sheds where the Gray Wolf and the Pope cars were housed was burned to the ground, but they are being rebuilt and will furnish training quarters for Lytle and Dingley and their cars during the eliminating trials, and later, should the Popes gain a place on the American team.

A few hundred yards east is the Mineola rail-

road crossing, 2, where the racers "jumped" last year as they pressed toward the finish of the laps. The crossing has been improved since then and will not provide the same amount of excitement. A short distance beyond this the Jericho turnpike is crossed by another Mineola wagon road, 3, which will have to be closed to vehicles on the two race dates.

From there on for 2 miles or more the turnpike runs, hard, wide, and fairly straight, chiefly through open fields and meadows. At Hicksville it is topped by wide-spreading trees and runs past nurseries, green-houses and orchards. Further on, after passing the Meadowbrook road, 4, the only marked curve in the turnpike is noted, 6. This is a curve to the left, neither sharp nor hard to make. About a quarter of a mile beyond, after passing the Westbury road, 5, the driver sees on his right the famous Westbury pump, where the grand stand was not erected last year, although this spot was selected for it. The site of last year's grand stand is passed $\frac{3}{4}$ of a mile further on. It is now an open field, green with the half-grown hay-crop which has been planted there. After a run a mile further to the east, the driver gains the first view of Jericho. This is the postoffice of that hamlet, apparently on the turnpike and overlooking it. The turn at Jericho to the northward, 7, is a much more satisfactory turn than was the one last year to the southward at the same point. This is because the angle is a wider one and also because there is a natural "bank" to the road which is to be followed next month. At all events it is a long steady swing into the East Norwich road and the drivers will then have all their troubles ahead of them. For the East Norwich road is a narrow, winding way, much of it through woodland where the trespassing foliage prevents the road being seen for more than a rod or two ahead. It has good bottoming, however, and is in fairly good condition. A little more stone thrown on the surface will work wonders. The road lies past the few houses which go to make up the town with the biblical name, but they are not enough to cause the commission or the drivers any annoyance. The run to East Norwich, over the Jericho-Oyster Bay road, can be made in fairly good time. The road is scarcely wide enough, except at two spots, for the cars to pass with safety when running at anything like top speed. So caution will have to be observed by the drivers at this point.

There is a sweeping curve in the Jericho-Oyster Bay road at the top of a steep grade a mile and a half from Jericho, 9, which needs watching, and beyond another curve to the right, 10, takes the driver past an old-fashioned house whose queer garden, seemingly on stilts, would attract the eye of anyone except a race driver. A sharp double curve a mile beyond leads in a straighter stretch of road past an old picturesque church at the right of the road, 11. From here on to East Norwich the road presents few difficulties. At Norwich the turn to

the left, 12, and to the west is through the center of the little village with two stores, a hotel and a residence on the four corners. But the road is good at the four corners and if the driver is careful he can make the turn—which is about a right-angled one—with safety. For a short distance out of Norwich the road, now less firm and quite narrow, runs fairly straight. Then it begins to zigzag and twist in a tantalizing way and for 5 miles or more is about as undesirable a race-course as could be found. The driver passes an old shed on his right, just out of East Norwich, which has a platform and runway across its front which suggests that someone's prophetic soul scented the Vanderbilt race 20 years ago. There are a number of bad curves, 13, and several heavy grades, 14, on this North Hempstead turnpike. Some of these grades assume considerable proportions. These are at the further side of dips into hollows. The worst feature of them is that they are not always straight and the steering wheel has to be carefully handled while the run is being made at the hill. There are no settlements of any size along this North Hempstead turnpike—only some graveyards, cheerful sights for race-drivers; many cornfields, which will be brown-yellow stubble fields when the race is run, and patches of woodland. The further part of the road is the better. Here, coming to another crossroads, with taverns on the catercornered points, the driver must prepare for a turn to the south. He takes his bearings from the Bull's Head hotel sheds on his right and his turn is to the left, 15. It is not a bad turn to negotiate. The road is good and he can see where he is to make the curve. It is, like the Norwich corner, about a right-angled turn. He is now on the back road—why so-called, no one can find out. It is a hard-bottomed white road of macadam and somewhat wider than the Hempstead turnpike which he has left. It is straighter, too. It leads past the rear of the Mackay estate and stables on the right and between pretty hedges and neatly painted fences for a mile or two. Then it swings to the right at a slight angle where another road forks, 16. From there on the traveling is on the Glen Cove road, which is a snare and a delusion. It runs between high maples, elms and oaks on the right and open fields on the left, and it is soft and winding and sandy. But there are no heavy grades. Slight speed can be made over portions of this road. Its exit is its worst recommendation.

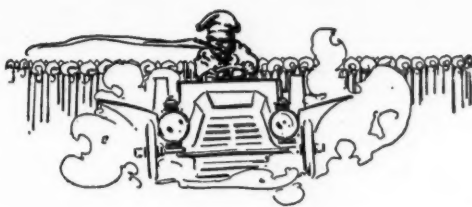
The Glen Cove road comes out into what is called the new road or the I. U. Willetts road in a manner which suggests a mystic maze in a botanical garden. The driver shoots from between high trees into the Willetts road, 17, which he must follow to the westward; he must make a quick turn and a steady one or he will find himself a-straddle of one of the large trees on the other side. The road he now enters looks as if it had been badly neglected. Weeds cover its center and the road is at present badly cut up and full of yielding sand, which affords poor traction. Either the turn at this point will have to receive an unprecedented amount of attention, or the Vanderbilt drivers will have to slow down almost to a full stop in turning. This is the first turn to the right to be encountered. Undoubtedly the Willetts road from this point presents more obstacles to a race driver than any American road ever selected for a road-race, with the possible exception of Mount Washington. It

EDITOR'S NOTE—Reference is made by number to certain pictures on the Vanderbilt cup race course. The pictures, detail map and other information will be found in a supplement.

wiggles and squirms across the country; it is soft and sandy; it possesses a bad highway crossing; it possesses one of the worst railroad crossings extant—that at Albertson station; it has an uncomfortable jog in it; and it has S curves first one way and then another and hidden perils innumerable. The bad highway crossing is soon after turning into the road. It is at the crest of a hill and the north and south road cannot be seen until the driver is close upon it, on account of the high bushes and trees which obstruct the view. The railway crossing at Albertson is visible, all right. One knows he is approaching it because he sees the station, a little low shed on his left. But the tracks are above the level of the road and the machine which hits them will jump further than did the cars which struck the Mineola crossing last year. And it is on record that one of them did about 30 feet through the air before the wheels lit.

The jog comes about a third of a mile beyond the railroad crossing. It is where a good road known as Willis avenue crosses the road. The Willett's road does not actually cross Willis avenue. The driver must turn sharply to the right, 19, and after running 5 rods, turn sharply to the left again, 20. There is a house at this jog. It faces the road as it turns away from Willis avenue. It is a neatly kept place, well-painted and with closely shaven lawns. A man with a lawn mower was shaving the lawn as MOTOR AGE's party stopped to inspect this jog. In answer to questions, quoth the man with the lawn mower:

"Do you know what I'm a-goin' to do when that race is on? I'll tell you. I'm just goin' t' set in the middle of this lawn and watch the fun. I've figgered it all out. I tell you, they's goin' to be the biggest all-fired kind of a time you ever seen, when them there drivers skates around this here



jog. I figger that them as don't go out into the field yonder, is goin' to keep right on up Willis avenyu into the sound. Them that don't strike a tree is goin' t' hit a rock and them that don't strike a tree 'r hit a rock is goin' t' be the all-fredest luckiest gazaboos that ever set in a autymobeel."

After looking the situation over, the correspondent came to the conclusion that the man with the lawn mower was right. That's the kind of a jog the Willis avenue jog is.

From Willis avenue westward the Willett's road is narrow and curves a great deal. It will require repairs in places. At present it is a really bad road, as Long Island roads go. There are several bad turns, 21, 22, and one where great care will be required in driving. This is about a half-mile from Lakeville and the road descends, curves right, forks and ascends left, all so quickly that the eye will not be able to grasp the situation unless it has trained itself to the task, 23. This curve once passed, it is clear sailing to Lakeville. The turn in Lakeville, 24, is at an angle of considerably less than 90 degrees. It is almost a hair-pin turn. There is a yellow hotel at the right and high banks at the left. Between the banks is the Lakeville road. No driver will take the turn at anything like speed, unless he is an idiot driver, and then he will wish he had not been. It is a spot where one wants to stop and think before plunging down the narrow way. But once past the Lakeville corner it is fairly clear sailing. The Lakeville road, which runs direct from this point to

the Jericho pike, winds somewhat but is otherwise beyond reproach. It is hard and well macadamized. It passes the Vanderbilt estate on the right within a quarter of a mile of the Lakeville corner. The estate is enclosed by a high iron fence and Lake Success can be seen through the palings. The road is fairly broad in stretches. In some places there would be no difficulty in three cars passing if they wished. At other points it is narrowed and hidden by trees, though as the road develops the shrubbery and trees grow less. The last 2 miles are on the level of the Hempstead plains and there are no trees to obscure the landscape from the touring automobile.

The turn into the Jericho turnpike at Hyde Park is a good one, 25. It is rather wider than 90 degrees and can be made easily at fairly good speeds. The turnpike is hard and firm, but there are a few grades soon after leaving Hyde Park, though the road is straight, 26, right up to the grand stand and the finish line.

To recapitulate: The Jericho turnpike is good; the East Norwich road is fairly good, but narrow and sinuous; the North Hempstead pike is fairly good, then poor; the back road is good until near the end; the Willetts road is miserable; the Lakeville road is generally good. There are eight turns, not taking into account twenty-two bad curves in the roads, as follows: Jericho, good; Norwich, fairly good; Bull's Head, fair; Willetts corner, very dangerous; two turns at the Wilts avenue jog, dangerous; one at Lakeville, hard but not dangerous if taken slowly; Hyde Park corner, good. The fast time will be made from Lakeville to Jericho. From Jericho to Norwich only fair time can be made. From Norwich to Lakeville the drivers will have to take it slowly, the most care being shown in the driving that is done on the Willett's road.

And there you have the Vanderbilt course in a nutshell.

COURSE WILL NOT BE CHANGED

New York, Aug. 22—There seems to be no chance whatever that the direction of the Vanderbilt course will be changed from the left to the right and little likelihood either that the foreigners will ask that it be. The Herald and Joe Tracy seem to be alone in the agitation for the change. It is believed that the European pilots will laugh at the suggestion and stand ready to declare, along with the Americans, that they can take curves as readily to the left as to the right. A strong argument for running to the left is that a dangerous short S turn on the north stretch will thus be taken up grade instead of down hill, which would make a dangerous double turn at high speed.

Walter Christie says he does not care whether the race be run to the right or to the left and Hollander and Tangeman declare that the Italian riders will be willing to race whichever way the commission directs. In fact, every one regards the discussion as forced and the direction a trivial and unimportant matter.

"I have notified the European entrants that the race would be run to the left and it would be impolite to make the change now," was the way Chairman Morrell put it.

Following a talk Joe Tracy had with Chairman Morrell and Secretary Batchelder, wherein he relieved his mind on this course direction, which seems to possess it or to

have been instilled in it, the Herald printed a story that Mr. Morrell had deputized Tracy to sound the other American drivers on the subject. Mr. Morrell says that there was no foundation whatever for such a story and that whatever Tracy does in the matter he does on his own responsibility.



OILING CHICAGO ROADS

Chicago, Aug. 22—Rather extensive tests are being made by the South park commissioners in oiling park drives, the 2 miles on the Midway being used for the work. At present the south drive is receiving its foundation coat of Westrumite, and as soon as this drive is completed the north road will be treated. A barrel of Westrumite to a sprinkler tank of water is used and is sprinkled on freely. As soon as the foundation is laid the road will receive a sprinkling but once a week and then only a quarter of a barrel of Westrumite will be used to each tank of water. The oil gives the roadway a brownish color, but there is little odor after the oil has soaked into the surface. Last fall a representative of the German concern which makes Westrumite was in this country and with a small quantity, with which satisfactory tests were made.

With the more intimate acquaintance with the course that has come from more general study of it the opinion is gaining ground that while not as good as that of last year it will prove satisfactory for the race. For only one quarter of the distance is the road too narrow for two cars to pass and these narrow spots occur at points where the road is too winding for passing anyhow.

The oiling of the course began today. It was begun thus early that the oil might have a good chance to mingle with the soil. There will be no oil sprinkling during rain and when the road is wet. The oiled surface will be 14 feet wide.

An elaborate telephoning and scoring system is to be installed. There will be telephone stations every 5 miles and the scoring board will show the net positions of the racers at every 5-mile station. Chairman Morrell says, by the way, that he expects the survey will show the course to be exactly 30 miles in length. It may not be a bad guess that allowances will be made for distance lost at the curves and in passing, which will be assumed to raise the 29½ miles to the 30 miles. This, though, is only a guess. At any rate it will answer the purpose, no matter what the exact distance is, everyone agrees, and the interest in the road race increases as the date of the elementary trial to decide the American team draws near.

western counties. The route this year has been changed, the riders being billed to pass through a picturesque part of the west and south of England. The average distance to be covered each day is about 125 miles. In order to eliminate as far as possible the chances of machines losing marks owing to delay caused by tire troubles, it has been decided to allow a competitor who has a punctured tire to repair it under the observation of a club official, and for this purpose he may stop one of the competing passenger cars and effect the repair under the supervision of the official observer. Time so lost will be allowed in each case. There will also be hill-climbing tests, for which marks will be awarded. There will also be at least one other hill, of an average character, and in the event of any machine failing to climb it a heavy penalty will be imposed.

As laid out the route starts from London on the 14th, the night stop being at Worcester, 126¼ miles. Bristol will be the second station, 132 miles. Wednesday night the tourists will stop at Exeter, 118¼ miles. Southampton, 122¼ miles, will be reached Thursday night, and Eastbourne, 120¾ miles, Friday night. On the last day 147¾ miles will be covered, the finish being at Hyde Park Corner, London.

CARS OWNED BY MONARCHS

Paris, Aug. 12—M. Loubet, president of France, is now up with the times, having, after much persuasion, ordered his first automobile—a 25-horsepower C. G. V. with limousine body. This fact has led to the compiling of a list of monarchs and rulers of states who possess automobiles. It is as follows: King of England, a Daimler, a Darracq and a Mercedes; emperor of Germany, three Mercedes and a Fiat; czar of Russia, a Darracq; king of Italy, a Panhard and a Fiat; king of Spain, a Panhard; king of Portugal, a Panhard; Queen Wilhelmina of Holland, a Mercedes; shah of Persia, several Gardner-Serpolotts; king of the Belgians, two Mercedes and a Mors; Prince of Monaco, a Mercedes and a motor cycle; queen of Italy, a Wolseley.

AUSTRIAN HILL CLIMB

Vienna, Aug. 12—The Austrian Automobile Club announces an open hill-climb at Schottwien-Semmering on September 17 over a 10-kilometer course on the Semmering hill. Several classes have been made, prizes being offered for each group. For the best time made in the hill-climb by any vehicle a challenge trophy is offered, to be won outright by three successive victories. This was competed for last year, when Theodor Dreher's car, driven by Hermann Braun, won in 8 minutes 11 3-5 seconds. Touring cars must have fully-equipped bodies, upholstered seats, wings, steps, sprags, etc., and be of the current and selling type of the manufacturer. A big entry is expected.

BALK ON CORPULENT CHAUFFEURS

London, Aug. 13—Despite the fact that there is a chunky-built sort of a man, they are claiming in England that the corpulent chauffeur must go. They say Fatty is slow and unwieldy in his movements and that, added to the weight objection, he has difficulty in squeezing past the front passenger to get to the driving seat. He fails to deliver the goods when it comes to being Johnny-on-the-spot at the door to assist the women passengers to alight. It is also charged that the heavyweight adds too much ballast to the car, causing an increased consumption of gasoline, retarding the pace and making a general nuisance of himself.

IS IT KNEEL OF BIG CUP?

Britons Give Their Views on Bennett Race—Fear They Might Have to Promote '06 Event

London, Aug. 12—They think here the action of the Automobile Club of Great Britain and Ireland in formally deciding not to challenge for the Bennett cup in 1906 sounds the death knell of the big international race. No matter how the English makers feel in the matter, they are out of the running for the reason that they cannot enter cars unless the national organization sees fit to challenge, which the United Kingdom does not. The move by the governing body was entirely unexpected by the community at large, but the fact that Earl Russell introduced the resolution and that C. S. Rolls, who himself drove a car in the Bennett and is one of England's most famous drivers seconded it, shows the feeling is not confined entirely to the anti-racing contingent.

The matter was brought before the club by a letter from S. F. Edge asking if a challenge was intended. Edge was present at the meeting and despite the fact he and Lionel de Rothschild announced their intention to build cars to represent England, the adverse action was taken. Edge, furthermore, volunteered to himself pay the \$600 entry fee.

Summing the situation up, the Britons seem to have figured that France's declination meant that the trophy would go back to the donor, James Gordon Bennett, and that there was a possibility that the Automobile Club of Great Britain and Ireland might be asked to take hold of the race and run it in 1906. This the officials did not wish to do, believing the Tourists' trophy contest on the Isle of Man can be made a medium which will do the trade of the United Kingdom far more good than the big road race.

While they believe that from a purely sporting standpoint the action is to be regretted, still from the administrative view of sound finance the severing of all connection with road racing in connection with speed cars is a wise policy. So far as they can

figure it out here, only three English makers are interested in the construction of racing cars—Napier, Wolseley and Star. The Darracq is thrown out of the consideration because although constructed in Scotland, it is of French design pure and simple. As C. S. Rolls was prominent in the resolution which put the Britons out of the running, it is taken to mean that the Wolseley company will have nothing more to do with racing. The Star company, too, will devote itself solely to building touring cars, leaving only the Napier people as possible candidates for cup honors.

Of the four manufacturers interested, Edge, speaking for the Napier, protests loudly, saying he thinks the club made a mistake. "If there was the least question of the English cars entered doing harm to the industry by being used at all in this country, they need only accept the entries on the condition that they were not to be run in this country at all on public roads," says Edge, "but to absolutely cut off from English manufacturers the opportunity of competing in a competition of international interest and world-wide fame is, I think, entirely wrong."

Expense in conducting such a race also enters into the question. The race over the Auvergne circuit must have cost the Automobile Club of France at least \$50,000, the 1904 event cost as much, while just how much the Automobile Club of Great Britain and Ireland paid for in 1903 is known only to a few members. With the revision of the 1903 act and a royal commission to be appointed to hear evidence concerning the working of the act, the governing motoring body will find a need for all the money it can scrape together to place the motor side of the case before the tribunal the way it ought to be placed.



SCENE AT THE START OF CIRCUIT DES ARDENNES

LE BLON LEAVING NEUCHÂTEAU



THE DOOM OF TRACK RACING

WITH Webb Jay horribly smashed, and even now not out of danger; with Earl Kiser in a hospital minus a leg; with Barney Oldfield swathed in bandages after miraculously escaping death, humanity calls for the immediate suppression of automobile track racing.

MOTOR AGE makes no attempt to hide its disapproval of this branch of motoring, and, disregarding the opinions of others, it feels compelled to vent its views, which have ere this become too well known to need being repeated. MOTOR AGE for several weeks has predicted just what has happened and a little more, that which will happen if the game is continued any length of time. Without any attempt to howl "I told you so," let MOTOR AGE repeat some of its warnings, simply to show that it was not by any means a difficult task for an observing person to foresee the result:

* * * The contests which have been seen on the tracks so far this season, with a few exceptions, have been one-sided affairs of a pronounced nature, with many of the entrants as non-starters or with their having failed to finish at all after one or two fast cars have left them hopelessly in the background. * * *—MOTOR AGE, July 6.

* * * The day will come, and it is approaching with rapidity, when big road races and big track events of all sorts will give way entirely to reliability trials, endurance contests, consumption tests, and the like, for it has been shown that, where the race is on either track or road it is of no great and lasting benefit as showing practicality, the tests referred to are of so much practical value as to place them first in the line of demonstrations to the buying public. * * *—MOTOR AGE, July 13.

* * * It can be only a question of time, when, to keep up such a game, it must end with a fatality. It can be no other way when a man goes around a track at speed far faster than the locomotive. * * * Race meet promoters will realize, after a few deaths on the track, that mile ovals are too dangerous and that larger courses are out of the question as a means of pleasing the public which pays to see the races. These facts alone will go a long way toward tolling the death knell of track racing.—MOTOR AGE, Aug. 13.

The warning of last week had not even reached the readers of MOTOR AGE ere Webb Jay's machine carried him through a fence and into a ravine, bringing him as near death as he could well be and still keep a spark of life. The warning of MOTOR AGE was too late in this particular case and it probably would have had little effect even had it reached Jay and the others. The accidents to Kiser and Oldfield did not seem to make any decided impression; promoters went on with their meets and drivers went on tempting Death.

It would seem that the only thing necessary to teach a lesson is some frightful catastrophe. One or two accidents or deaths will not do it; if this is the case, and a lesson appears necessary, then let us have the catastrophe for the

sake of the lesson it may teach the public.

In every manner and form, for every purpose save as a money-making affair, the track racing game has been a woeful failure. If it ever had one whit of usefulness it has lost that minute particle. There has been little real racing and when there has been any it has been so dangerous as to cause the feeling person to at times turn his head from what would appear to be an inevitable catastrophe.

Who has gained by track racing? Taking big chances, a few clubs have managed to squeeze out a pittance as a result of weeks of work and worry. Very few racing men have anything to show for their successes. Barney Oldfield, tempting Death and successfully and luckily warding off his blows, has a little of the world's goods laid up; Earl Kiser, younger in the game, with nothing on the profit side of his book, is a cripple for life; Webb Jay, while he may have a nest egg, is by no means sure of his battle with life at this writing. None of the other drivers has profited by the game even to the extent of any amount of advertising.

Have not these men the sense to ask themselves: "Does this all pay?"

Do the clubs and other promoters of automobile track racing believe in the position they take?

Let it be heralded that the Minneapolis club foresaw the result in time to warn away temptation and decided to abandon meet promoting in the future. Its course was wise; the wisest of all. It set a lead that others must and shall follow. The Chicago club followed this lead, after Jay's accident, and mo-

DON'T BLAME THE AUTOMOBILE

THE automobile is somewhat akin to a wife. When a husband can find nobody else to blame for anything he blames his wife; when an accident cannot be attributed to anything else, it is laid to the automobile. It is the automobile, seldom the operator.

Accidents are occurring almost daily; they will continue to occur just as long as drivers of automobiles continue to be reckless or careless. The number of accidents attributable to the automobile in itself is so few as to be counted on one's fingers.

A millionaire's son was killed a few days ago and this time the tire was blamed—because it came off and caused the machine to swerve just as it reached a bridge. Had the young man been running his machine at a reasonable speed the loss of the tire could not have been responsible for the accident, for the machine could easily have been stopped before any damage could have resulted. That same young man, by the way, had a reputation for being a

torists all over the country, including the racing men themselves, save Barney Oldfield, are expressing their disapproval of this form of sport—doubtful sport, at best.

MOTOR AGE has heretofore given its readers all the news of racing—track, beach and road. It has endeavored to cover the field thoroughly in order that its readers might have the news. It has now reached the end; it is through with automobile track racing where circular tracks are concerned; it frowns upon such events and will not aid in tempting Death on the part of promoters and drivers.

MOTOR AGE will not after this issue lend its aid to a track meet by printing the announcements of the affair and reports of races will receive only slight consideration, if any. MOTOR AGE feels that track racing should be abandoned and forgotten and cannot, therefore, give its aid to a branch of automobiling so dangerous and so universally condemned.

MOTOR AGE regrets that it feels compelled to take this stand for one reason. This may aid in being the means of sounding the knell of track racing, and thus it may do Barney Oldfield, Webb Jay, Earl Kiser and others an injury in taking away from them a source of livelihood. But it will be for their benefit more than for anybody's else.

It will make one exception. It will aid in the proposed benefit to Earl Kiser—and who would not? And right here let MOTOR AGE sing the praises of big-hearted Barney Oldfield, who, swathed in bandages, proposes to ride for Kiser's benefit and even to stand the expenses of the meet; who, after Jay's accident, with visions of disaster staring him in the face, gallantly mounted his machine and laughed at Death only to aid Jay, who then was hovering between life and death.

MOTOR AGE does not believe that beach racing is particularly dangerous; and an event such as the Bennett or Vanderbilt cup race has few elements of danger when carefully planned and cautiously conducted; but track racing, no matter with what safeguards are thrown out, has no part in automobiling; proves nothing and cannot endure. It may as well be ended now as at a future date, when some horrible catastrophe shall demand it and when the authorities shall feel compelled to step in and exercise that judgment which automobilists themselves ought to exercise.

Requiescat in pace!

daring driver and the able manipulator of a fast-going automobile of ponderous proportions. Let one draw his own conclusions.

The automobile in itself is as docile as any kitten that ever lived, but in the hands of a reckless man or youth it may show its power; a horse is harmless when under its master's command, but its power is terrific once it has its own mind; a lion may be tamed by a human being, but it can create havoc among a thousand once it is turned loose and given its own way.

Nobody would blame a horse or a lion were it to create some sort of havoc if its master had lost control of it—the master would be blamed. So it should be in the case of the automobile accident—blame the man, not the automobile.

Count all the accidents, delve into their causes, and it will be found it was the man's fault and that recklessness or carelessness was at the bottom of the whole matter. But forget that it was the fault of the automobile.

Jump Sparks

What an inglorious ending for the Bennett cup race to be hawked and kicked about in such orphan-like manner.

Next thing we know some enterprising beach meet promoter will get up a race between an automobile and a motor boat.

The racing game reminds one of a pugilist—it went on knocking out everybody it met, but finally received a pretty severe up-repent itself.

Barney Oldfield and Earl Kiser ought to submit themselves to science to ascertain of what nerve is made. Their stock is in abundance evidently.

Oiling the roadway on the Midway in Chicago suggests that this is only another of John Rockefeller's schemes, inasmuch as the Midway runs right past his university buildings.

A round-up of royalty shows that almost every monarch and ruler now owns an automobile. Maybe President Roosevelt holds off from buying in order that he may be in a class by himself.

It may be said that if track racing is abandoned it will kill the drivers' goose that lays the golden eggs. But one's appetite for goose is not sharp since the recent track accidents.

England has put herself on record as being opposed to the corpulent chauffeur. Here's a chance for American ex-jockeys, forced out of the horse racing game by too much weight, to turn an honest penny. Perhaps, too, the dime museums might provide a few living skeletons seeking work.

Even race promoters, who do not risk their own necks, have come to the conclusion that they have had enough of track racing and are crawling out slyly or boldly chucking the whole game. As a matter of fact, there are few disinterested persons who are in favor of track racing just now.

A Connecticut judge's summing up of the law relating to the speed of automobiles hits the nail on the head and is a step toward holding each individual for the damage that particular person does rather than to humiliate all automobilists and other users of roads by the enforcement of laws which may be all right at one time and all wrong at another. The court said: "The legislature has no authority to regulate the conduct of individuals except in the interests of preserving the peace, health, safety and good morals of the community and the right of life, liberty and property. Hence, the law does not concern itself with the rate of speed of vehicles in highways and other public places except some regulation be required to protect persons and property. Whether in a



JOYOUSLY TOYING WITH DEATH

The Week

Sentiment in New York, Chicago, Buffalo, Cleveland, Detroit and Toledo, as expressed by leading men of the trade and sport, against continuance of racing on circular tracks.

Forty-nine out of fifty-seven vehicles successfully complete 12-day reliability test in France; all military vehicles come through with perfect records.

South park commissioners of Chicago experiment with Westrumite on Midway for purpose of laying dust; will extend tests to other boulevards.

Action of Automobile Club of Great Britain and Ireland in refusing to challenge for Bennett cup in 1906 meets with approval of Britons.

Prominent drivers agree to compete in Kiser testimonial at Dayton next week; demand for tickets promises overwhelming success.

Glidden trophy is formally awarded to Buffalo Automobile Club, speechmakers decrying against track racing evil.

Webb Jay receives almost fatal injuries in race at Buffalo; chances of recovery now believed to be good.

Buffalo holds its first parade, first prize for floral decorated car going to Albert Poppenburg.

Philadelphia and Washington motorists take orphans out for rides in automobiles.

Hemery's victory in Ardennes circuit race confirmed; Panhard wins team trophy.

Earl Kiser on road to recovery; declares he is through with racing game.

Chicago Automobile Club abandons track meet scheduled for the fall.

Long Branch carnival starts with racing at Elkwood park.

given instance a vehicle is being run in violation of this principle may not be determined by the rate of speed alone."

Webb Jay probably did not know how near he hit the truth when he said he was about through with track racing.

At the rate the speed merchants have been bowled over it would not take long to make a champion out of this year's novice.

The curtain on racing on a circular track will probably go down with the testimonial meet to Earl Kiser at Dayton next week. Here's hoping there will be no encore.

If one desired to pun he might say something about the Darraeq people having a Hemeryghe in the Ardennes race and that the Panhard crowd had a Tart taste in their mouths.

Motorists fighting the dust evil with oil ought to make an extra large dividend for the Standard Oil Co., part of which might be diverted to the University of Chicago if Dr. Harper is around.

If the motorists of the country keep up this practice of giving free rides to the motherless and fatherless they will soon have a crowd of full grown orphans clamoring for recognition. But let the good work go on.

That all the military vehicles in the 12-day reliability test in France should go through without a mishap leads one to suggest that Russia, unable to buy a navy, might invest in a few motor rigs. These, with a few 20-foot launches, would help out the Muscovites' fighting force about 50 per cent, as matters stand.

Mayor Dunne, of Chicago, had a touch of suburban justice when his chauffeur was arrested and taken to police headquarters, the mayor accompanying him. The chauffeur was fined \$10 and later the suburban authorities tendered the mayor the \$10 and an apology, even after the mayor admitted his car was going 16 miles an hour. According to this, the ordinary automobilist has a good many apologies coming to him. Yet, there is something in some good books about equal rights, etc.

Barney Oldfield proposes that, in order to eliminate the danger in track racing, only two cars compete at the same time and that they be started from opposite sides of the track. This might eliminate the danger to the contestants, but such a race would prove so uninteresting to the spectators that it would soon prove extremely dangerous to the size of the gate receipts and consequently somewhat dangerous to the game. All in all, track racing is a dangerous game from any standpoint one may look upon it. Now, Barney, it is time to give up the fight.

JAY HAS CHANCE FOR LIFE

Driver Injured in Accident at Buffalo Improving Steadily and Doctors Declare Wednesday Morning That Expected Complications Had Not Set In—Details of Mishap

Buffalo, N. Y., Aug. 23—Special—At the German hospital this morning Dr. B. J. Bixby said Webb Jay's condition was improving steadily and the chances for recovery seemed brighter. Complications which were expected have not set in. Jay was conscious at times yesterday and recognized Charles Burman when the latter went in to bid him goodbye. Jay suffered little pain. His wife remains with him constantly and her spirits have risen in the last day or so.

ACCIDENT TO WEBB JAY

Buffalo, N. Y., Aug. 18—After the events at Detroit and Cleveland it was to have been expected that the Buffalo meeting would not be free from serious accidents. It was not, for in the last race today Webb Jay drove his White steamer into the fence on the stretch turn of the Kenilworth track and received injuries from which he may die.

Up to that time it looked as though Jay was to be the brightest star of the meeting. Oldfield was on hand with his arm in a sling and his head bandaged and it had been given out that he probably would not compete in races but would confine himself to exhibition trials.

It was in the 10-mile open that Jay was hurt. He had won the first heat of the \$500 Buffalo derby from Charles Burman in the prettiest contest of the afternoon when he came out to meet Herbert Lytle and Burman in the only 10-mile event on the card. Lytle had won the 5-mile race for cars under 1,432 pounds and the 5-mile for stripped touring cars and had finished second in the second heat of the Buffalo derby. The crowd expected a stirring contest in the 10-mile event.

Jay took the pole at the start and led for the first mile, Burman coming second and Lytle last. At the 3/4-mile post on the second mile Lytle dashed into the lead and at the end of the second mile Jay had dropped into last place, with Lytle first. Lytle and Burman continued to gain and at the end of the third mile Jay was 100 yards behind the leader.

The track had been sprinkled during the morning and early afternoon, but despite that great clouds of dust were kicked up by the cars on the turns. As the machines dashed along the back stretch on the fourth mile the crowd in the stand realized that Jay was picking up a bit. The peculiar whistling sound which gave his car its nickname was heard from the far side of the track.

Lytle led into the turn. Burman followed close, being lost in a cloud of dust. Then Jay entered the cloud and it was a second before someone shouted: "Webb Jay's in the fence." The spectators were dazed and for a few moments no one seemed to realize what had occurred. Then men poured out upon the track, running toward the turn, and it became impossible for Lytle and Burman to continue the race.

Jay had been blinded by dust. The tracks of his wheels showed that he had not taken the turn at the right place but had run close

to the fence before he had realized his mistake. Then he tried to turn sharply, but the rear wheels skidded, struck a post and broke it off. That sent the front of the car around and 20 feet from the broken post the car dashed through the fence, flew through the air for 50 feet and struck the edge of a pond at the bottom of a 15-foot embankment. Jay fell out as the car struck. Boys who had been sitting on the fence rushed to the spot as soon as they heard the crash. They saw only Jay's canvas coat and one arm above the water surface of the pond. The head was stuck in the mud under the water. The car was almost entirely submerged.

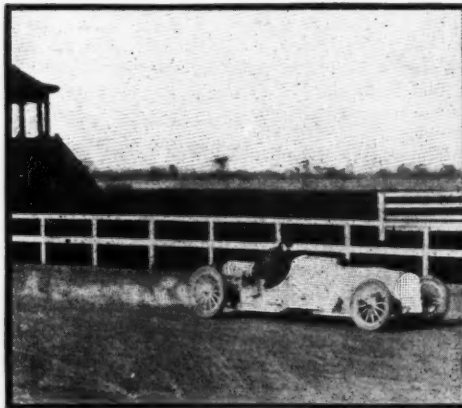
The boys pulled Jay's bleeding body out of the water to the bank and he soon was taken to a hospital in an ambulance. It was found that the left forearm, nine ribs on the left side and the left thigh had been fractured. The lung was punctured so that air escaped from it and spread out under the skin of the crushed left side.

The car, when taken out of the water 2 hours later, was uninjured except for the bending of a brace in front and a crumpling of a part of the hood. The throttle was wide open, the brakes not set and the steering gear in such condition that the machine was steered as it was towed downtown.

Just at the time Jay was hurt Barney Oldfield was preparing to accept Jay's challenge for a \$1,000 match race to be run in three heats of 10 or 20 miles. Thursday Barney had told a Buffalo reporter that Jay's records at Morris park were not accepted as records and the statement had aroused Jay so much that on Friday morning he posted \$1,000 for a contest with Oldfield.

Oldfield said after the accident: "Although Jay and I are rivals on the track, I admire him as a thorough gentleman and I cannot tell you how much I regret this accident. I shall try to find some way to be of assistance to him."

That was the only occurrence to mar the day's racing. A crowd of 4,000 persons, among whom were many people prominent in the social and business life of the city, was at the track and the weather was superb. The first motor race of the day, the 5-mile open for cars under 1,432 pounds, had been a pretty contest between Lytle and Fred



JAY JUST BEFORE THE ACCIDENT

Tone, the Marion car being only 15 yards behind at the finish of the race.

Oldfield came out after the third race for an attempt to break the Kenilworth 1-mile track record, 58 seconds, and the track record for 5 miles, 4 minutes 52 seconds, both of which he made last year. The Green Dragon wasn't working perfectly, but despite that Oldfield turned the first mile in 55 seconds, the second in 54 1/2 seconds, which was a new record and the 5 miles in 4 minutes 41 1/2 seconds. Charlie Hall announced that that was the fastest time of the year on a circular track. The summaries:

Two-mile motor cycle—L. M. Gard, Indian, Buffalo, first; William Chadeayne, Thomas, Buffalo, second; George Roessler, Thomas, Buffalo, third; time, 3:16.

Five-mile open, cars under 1,432 pounds—Herbert Lytle, Pope-Toledo, first; Fred Tone, Marion, second; time, 5:34.

Five miles, Buffalo derby, first heat—Webb Jay, White steamer, first; Charles Burman, Peerless, second; time, 5:09 3-5.

Second heat—Montague Roberts, Thomas racer, first; H. Lytle, Pope-Toledo, second; time, 5:27.

Five-mile open, stripped touring cars—Herbert Lytle, Pope-Toledo, first; George Salzman, Thomas flyer, second; Fred Tone, Marion, third; time, 5:19.

Five-mile exhibition—Barney Oldfield; time, 4:41 3-5.

Ten-mile open—Unfinished.

SECOND DAY OF MEETING

Buffalo, N. Y., Aug. 19—When Charlie Hall announced at the beginning of the racing this afternoon that reports from the hospital were to the effect that Webb Jay's condition was encouraging a big shout went up from the grand stand. More people had gathered than on the first day and the weather conditions, barring a south wind, were ideal. The track, however, was dustier than on Friday.

Everywhere among the officials and prominent automobile men who were at the track, there was talk of the dangers of the racing game as shown by the accidents to Oldfield, Kiser and Jay, but it must be admitted that the crowd was larger than on the previous day and there seemed to be prevalent something of the spirit which dominates those who enjoy bull fights.

At a banquet at the Automobile Club of Buffalo last night William H. Hotchkiss, former president of the club, had announced that he would go to court to restrain all persons from conducting track motor races in this city, but he supplemented the announcement with the statement that he would not try to stop today's racing.

Overnight, too, E. R. Thomas had filed a protest against the awarding of the stripped touring car race of Friday to Herbert Lytle and his Pope-Toledo. Mr. Thomas urged that the Pope-Toledo was a racing machine in its details of construction. The protest was sustained and the race was given to George Salzman, who drove a stripped stock Thomas flyer.

The Buffalo owners' handicap event did not fill nor did the 5-mile open for cars under 1,432 pounds, so the first race of the day was a 3-mile novelty event, which Charles Soules, in a Pope-Toledo, won after the crowd had been much amused. The cars stopped at the end of each mile to load or unload the passengers and the failure of R. H. Magoon to stop his Pope-Toledo within an eighth of a mile of the wire brought out a big laugh.

Oldfield finally decided to come out for the 5-mile national championship and in that

event he added four points to his score for the year. The starters were Oldfield, Lytle and Roberts, who drove the Thomas Vanderbilt cup racer of Barry Hout. Oldfield ran away from the other two so that by the end of the fourth mile he was nearly $\frac{1}{2}$ mile to the good, but Roberts and Lytle had a pretty struggle until Lytle dropped out in the fifth mile. Oldfield romped home a winner in 4 minutes 32 $\frac{1}{2}$ seconds.

A much closer finish was provided in the 5-mile stock touring car event in which George Salzman, Thomas flyer, won from Charles Soules, Pope-Toledo, by a matter of inches.

Oldfield had made a public offer on Friday night to drive in the final of the Buffalo derby \$500 race in place of Jay if the referee would permit and to give the prize to Jay in case he should win it. Burman and Roberts, the others who had qualified, were willing, but the suggestion was frowned upon by Windsor T. White on the ground that his company was willing to take good care of Jay. Referee Temple decided that under rule 13 the substitution of a car and a driver as proposed by Oldfield could not be permitted.

Burman stuck to the middle of the track in that race and Roberts took dust all the way. In the fourth mile the Thomas car spurted a bit and reduced Burman's lead but the Peerless soon regained all it had lost and Burman finished an eighth of a mile ahead in 10:38.

After the race Burman went to the officials and asked that the \$500 be paid to him in two checks, each for \$250, so that he might give one to Webb Jay. "Jay won the fastest heat yesterday," he told the judges, "and would have won today had he not been hurt. I wish to give him half of the prize."

The last race on the card was the Diamond cup event, run in two heats and a final. Lytle and Roberts started in the first heat, the Pope-Toledo winning by half a mile in 5:04, 5:04 $\frac{1}{2}$.

Oldfield and Burman started in the second heat for a race which brought the stand to its feet. Burman was at the pole and a little ahead for the first 3 miles. As they flashed by the fourth time there was no appreciable change in the positions.

Gradually, however, Oldfield turned on the speed. Slowly he crawled up. Little by little he gained. Coming like a gale down the stretch he caught Burman at the very tape and won by a half wheel. It was the most sensational finish of the meeting and the crowd cheered with delight.

Oldfield and Lytle came out for the final and Lytle provided another sensation by beating Oldfield. He took a 50-foot lead in the first mile, increased it to 100 feet and got the pole in the second mile; was ahead by 75 yards at the end of the fourth mile and won by 50 yards in 4:52.

During the afternoon Charles Soules drove a Pope-Toledo stock touring car 5 miles in 5:57 $\frac{1}{2}$, which, according to the announcer, is a new world's record.

After the race Oldfield gave out a statement that he had driven his last race in the dust. He said his records would show that he knew how to drive a car on a circular track, but that he was no better than any other man in the dust and hereafter would slow his car while taking turns in a cloud



of dust rather than risk life by fast driving.

Charles Burman had announced earlier in the day that he would never race again after this afternoon. The summaries:

Three-mile novelty race—Charles Soules, Pope-Toledo, first; George Salzman, Thomas flyer, second; R. H. Magoon, Pope-Toledo, third; time, 4:47.

Five miles, national championship—Barney Oldfield, Green Dragon, first; Montague Roberts, Thomas racer, second; time, 4:53 3-5.

Five-mile, stock touring cars—George Salzman, Thomas flyer, first; Charles Soules, Pope-Toledo, second; time, 6:06 2-5.

Five-mile, Buffalo derby, \$500 prize, final—Charles Burman, Peerless, first; Montague Roberts, Thomas racer, second; time, 10:38.

Five-mile, Diamond cup race, first heat—Herbert Lytle, Pope-Toledo, first; Montague Roberts, Thomas racer, second; time, 5:04 3-5.

Second heat—Barney Oldfield, Green Dragon, first; Charles Burman, Peerless, second; time, 5:27.

Final heat—Herbert Lytle, Pope-Toledo, first; Barney Oldfield, Green Dragon, second; time, 4:52.

YOUNG QUAKERS ON RIDE

Philadelphia, Pa., Aug. 21—On Wednesday afternoon last the Evening Telegraph, of Philadelphia, with the aid of the local automobile dealers and agents, brought off quite a creditable parade of motor vehicles. While the parade was not the principal object, it must be recorded a success as such. The Telegraph, which has been doing a great work in furnishing free ice to the poor, soliciting money subscriptions and enlisting the aid of children of those more fortunately situated as regards this world's goods, conceived the idea of partially recompensing its little helpers by giving them an automobile ride. To this end the paper asked the co-operation of the Philadelphia automobile tradesmen and individual owners, and the response was gratifying. Over sixty cars showed up at the start, and into these fully 300 little ones were stowed away, and the procession started for Fairmount Park. After a 20-mile trip through that popular pleasure ground the long line headed for home. Just here the sporting instincts of the children came to the surface, and urged on by

their little passengers the chauffeurs let out several links, with the result that the municipal speed laws were badly fractured in several places. While the Telegraph's committee in charge of the affair duly deprecated this rather rapid wind-up to what was to have been a properly staid, Quaker-like affair, the children were hugely delighted, and when they climbed out of the cars, with their hair tangled and their eyes dancing, even the girls declared "It was just lovely!" Manager "Bill" Smith, of the local Rambler branch, did yeoman work in getting cars for the parade, a counting of noses just before the start showing that of every five cars in the procession three were Ramblers. The Telegraph proposes to give a similar outing to the little helpers towards its free ice fund before the opening of the schools.

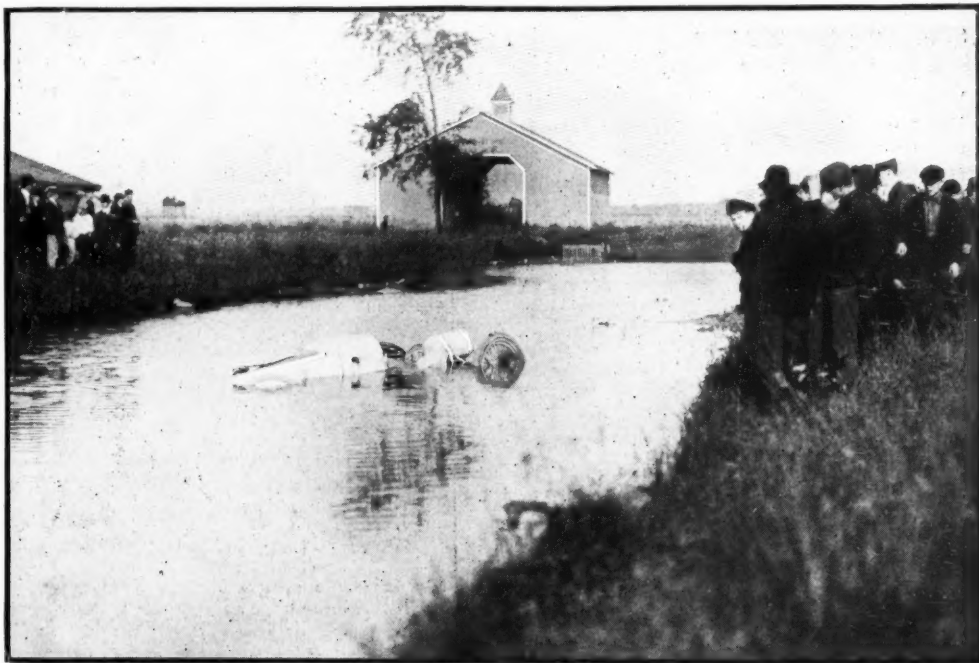
MEGARGEL GETS AWAY

New York, Aug. 19—Percy Megargel, after a week of waiting for the arrival of the Reo Mountaineer from the factory at Lansing, Mich, got off at 5:30 o'clock this morning on his double transeontinental journey. David Fassit, of the factory, accompanied him. The seat of the car is hinged and folds so that the men will have a good sleeping berth when they do not care to regularly pitch camp. Megargel roughly guesses that it will take 112 days for the journey, which will bring them back to New York around December 1. He will follow the route of his recent trip to Portland, Ore., go south to San Francisco and probably return by the route taken by Whitman in his Franklin and Olds trips.

Megargel reached Buffalo Monday and left for Cleveland Tuesday morning.

FIRST IN HERKOMER TOUR

Berlin, Aug. 14—Ladenburg, in a Mercedes fitted with Continental tires, was the first car to finish in the Herkomer tour, which was completed yesterday, running from Munich to Munich through Ulm, Baden Baden, Nurnberg and Reglesburg, finishing at Munich. Weingand was second; Palge, in a Mercedes, was third, and Opel, in an Opel, fourth. One hundred and one cars were entered in the 700-mile tour, representing France, Germany, England, Austria, Belgium and Switzerland.



WEBB JAY'S CAR IN CREEK AFTER THE ACCIDENT

LONG BRANCH CARNIVAL ON

Senator Morgan's Affair Starts Saturday With Track Meet at Elkwood Park—Only Three Cars Start on 6-Day Journey Along Bluff—Cedrini Smashes 49-Mile Record

Long Branch, N. J., Aug. 19—Senator Morgan rang up the curtain on his Long Branch carnival with a race meet at old Elkwood park's mile track. Former Chairman Pardington was referee, and good old Arthur Augustus Zimmermann, once champion cyclist of the world and at all times pet of Monmouth courses, fired the starter's pistol.

The programs were an hour or so late from the country printer. But nobody cared, and everybody enjoyed himself jollyng his girl or talking motor car with his neighbor. After a while the officials hustled around and told the entrants there would be something doing soon. In the meantime exhibition "record breaking" rides by touring cars filled in well enough until the programs arrived.

First Joe Heller drove his 30-horsepower Pipe an exhibition 5 miles in 6 minutes 12 seconds and then the non-stop run Frayer-Miller was tooled by Lee Frayer a mile around the circuit in 1:34 2-5. Next J. P. Bruyere easily won a 5-mile motor cycle handicap from scratch in 6 minutes 52 seconds with his 4-horsepower Curtis.

Well into the afternoon the first race of the day was called—a mile for two-cylinder cars, best two in three heats. O. W. Ward won both heats in a Buick. Then followed three other races. The summaries:

One mile; best two in three heats for two cylinder cars—First heat—O. W. Ward, Buick, first; W. C. Hood, Rambler, second; F. W. Leland, Stevens-Duryea, third; time, 1:30.

Second heat—O. W. Ward, first; F. W. Leland, second; W. C. Hood, third; time, 1:57 2-5.

Three-mile free-for-all—O. W. Ward, Buick, first; J. Heller, Pipe, second; G. B. Demarest, Locomobile, third; time, 4:41 1-5.

Four-mile handicap—O. J. Smith, Maxwell-Briscoe, handicap 1:45, first; G. B. Demarest, Locomobile, handicap 1:45, second; J. Heller, Pipe, handicap :30, third; time, 5:33.

Five-mile pick-me-up race—A. L. Kull, Wayne, first; Leon Cubberly, Autocar, second; D. D. Holmes, Wayne, third.

Five-mile motor cycle race—J. P. Bruyere, Curtis, first; R. A. Bonner, Indian, second; F. H. Vandorne, Indian, third.

SIX-DAY TEST STARTS

Long Branch, N. J., Aug. 21.—Three cars were sent away at 9 minutes past midnight today on a long 6-day journey along the bluff and by the ocean side in an attempt to make the run without stopping their engines and also to test comparatively their economic fuel consuming capabilities. There were to have been started with them four other cars in a tire test of equal duration. Not all of the tire makers whose product Senator Morgan desired to put to the test had responded. Nothing daunted, Morgan had ordered pairs of the missing makes from a supply dealer. They had come all right, but several inner tubes were missing from the shipment, so this particular contest did not start until this afternoon and will have to be continued into next Sunday to round out the 6 days.

The start was made from the east front of the West End hotel. The course chosen was up and down a stretch between Seabright on the north and Seagirt on the south, which odometer measurements showed to be 19 3/4 miles.

At either end of the route a checking station

was established. It was also arranged to have an official observer on each car all the time. The basis of award is to be: Nonstop, 50 per cent; mileage, 25 per cent; economy, 25 per cent. The contesting cars were in detail the following:

No. 5—Frayer-Miller tonneau, built by Oscar Lear Automobile Co., Columbus, O., and entered by F. E. Muscovics; 20-horsepower, four-cylinder, air-cooled motor; weight, 1,875 pounds.

No. 6—Wayne tonneau, built by Wayne Automobile Co., Detroit, and entered by Wayne Automobile Co., of New York; 20-horsepower, two-cylinder, water cooled motor; weight, 1,600 pounds.

No. 7—Corbin tonneau, made and entered by Corbin Motor Vehicle Corporation; 16-horsepower, four-cylinder, air cooled motor; weight, 2,000 pounds.

All night Spooner, Eustis and a band of twenty sat on the bluff and watched the running. The times of the passing cars were:

	40 Miles	80 Miles	120 Miles	160 Miles
Frayer-Miller	1:33	3:05	4:30	5:52
Corbin	1:51	3:22	4:56	6:22
Wayne	3:36	5:34	7:40

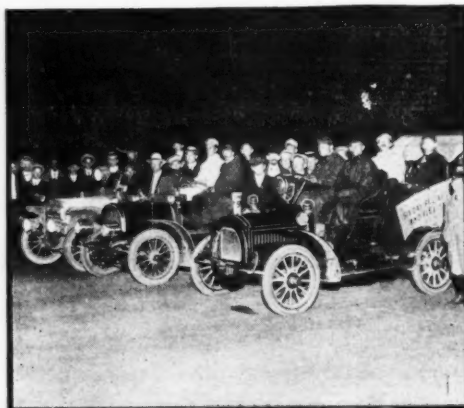
The non-stop record of the course is 2,052 miles made in 112 hours by S. B. Bowman and Clovis Bertrand in a 15-horsepower Clement-Bayard during last years' carnival.

A show opened in the West End casino today. There will be races at Elkwood park track tomorrow, a meeting to form a New Jersey state A. A. A. association on Wednesday and a floral parade on Saturday.

TUESDAY'S RACE RESULTS

Long Branch, N. J., Aug. 22.—Special—Racing today at Elkwood park was much more interesting than that of Saturday. Interest in the Cedrini time trials with the Fiat Junior was great. Cedrini ran 49 miles and bettered Harry Harkness' figures for all distances up to that mark, though at 30 miles his gasoline pressure was exhausted and for 19 miles he pumped air into the tank. He will try for the 50-mile record tomorrow.

When Cedrini tried conclusions with Guy Vaughn he had little difficulty in beating him, though the Decauville ran with real regularity. In the price car events, the Maxwells cleared up fields in the \$650-\$1,000 and the \$1,000-\$1,750 class, there being fields of six in each class in the contests.



START 6-DAY TEST, LONG BRANCH

Lee Freyer, driving the Freyer-Miller machine, finished 1,000 miles at 5:55 this afternoon or 41 hours 46 minutes from the start. This is the non-stop American road record for the distance. The Freyer-Miller is now the only car of the kind which has fulfilled the non-stop conditions. The Corbin car skidded and broke a spring about 5:30 o'clock and in the confusion the motor stopped for about 15 seconds.

The Maxwell cars had finished about 350 miles at 10 o'clock last night and were running well. Summaries of the track races:

Fiat Junior, Cedrini driving, against long distance track records for the track as established by Harry Harkness last year: Mile, 1:01, as against 1:11 3-5; 10 miles, 10:13, as against 11:24 2-5; 25 miles, 25:35 3-5, as against 28:30 2-5; 49 miles, 53:14 2-5, as against 1:01:23 1-5.

One mile, free-for-all, rolling start—Cedrini, Fiat Junior, first; Guy Vaughn, Decauville, second; time, 1:06:02.

Second heat—Cedrini, first, in 1:05 1-5.

Two-mile, for cars costing from \$1,000 to \$1,750, best two in three heats; first heat—William Longstreet, Maxwell, first; W. C. Hood, Rambler, second; C. W. Kelsey, Maxwell, third; time, 3:25.

Second heat—Longstreet, first; Kelsey, second; Roger Stearns, Ford, third.

Final heat to decide second place—Kelsey, first; time, 3:30.

One mile, for cars costing \$650 to \$1,000, best two in three heats; first heat—C. Fleming, Maxwell, first; Roger Stearns, Acme, second; time, 1:41 3-5.

Second—Fleming, first; Hitchcock, second; Stearns, third; time, 1:39.

Final heat for second place—Stearns, first; time, 1:48 4-5.

FIRST PARADE OF BISONS

Buffalo, N. Y., Aug. 18.—A score of prettily decorated automobiles took part last evening in the first parade of the sort ever conducted in this city. After a drive through the city streets the motorists went to Athletic park, which was thrown open to them for the night. Thousands of citizens viewed the parade as it moved up Main street from the Terrace, 3 miles to the park. There were 15,000 persons at the park. The judges picked out four cars as being better than others in the matter of decoration and the prize was given to Albert Poppenberg, whose Rambler touring car was trimmed with large white roses and had a canopy of the flowers. Percy Pierce's car, which bore the Glidden trophy and was decorated with electric lights, was highly commended, while the car of F. A. Babcock, trimmed with flowers, was also well spoken of, as was the car of Nelson P. Baker. W. C. Temple announced the winners.

ROUSING BENEFIT FOR KISER

Dayton, O., Aug. 21.—The Kiser testimonial will be the largest meet ever given and the most noted automobile drivers in the country will strive for blue ribbons August 26 at the local race track. Thousands of tickets have been sent all over the country and telegrams come in asking for more. It is the intention of those interested in the meet to make the Kiser benefit stand as a testimonial of the high esteem the nervy little driver stands in the estimation of his countrymen. So far everyone has shown a willingness to pitch in and help along the movement. Given a good day, there is no chance of the meet being a failure.

F. G. Bailey, manager of Barney Oldfield, is on hand and is chairman of the advertising committee. The drivers who have agreed to take part in the races are: Barney Old-

field, Green Dragon; Dan Canary, Tornado; John S. Johnson, Bullet; Carl Fisher, Comet; Louis Chevrolet, Fiat; Herbert Lytle, Pope-Toledo; Charles Burman, Peerless; Jerry Ellis, Apperson; Edward Soules, Pope-Toledo; Dan Wurgis, Reo Bird; Eddie Bald, Columbia; Charles Soules, Pope-Toledo; Robert Jardine, Royal. Walter Christie and the Cape May party are expected if they can make connections after they finish at the beach.

Friday night there will be a grand automobile parade, headed by the National Cash Register Co.'s car, with the band. Almost every local owner of an automobile has signified his willingness to participate. Cincinnati, Cleveland, Columbus, Indianapolis and several minor cities have asked for places in the parade as they will send cars and representatives. All railroads and traction lines will sell tickets at half rates. If Kiser is able to see the parade he will probably feel that a lost foot was not for nothing.

CAPE MAY EXPECTS BIG MEET

Cape May, N. J., Aug. 21—Given a square deal by the clerk of the weather the Cape May Automobile Club officials declare that the big 2-day tournament, scheduled for the end of the present week, will demonstrate beyond the shadow of a doubt the justice of the claim that the beach here is the fastest short-distance automobile course in the world. Today Chevrolet, with his 120-horsepower Fiat, and Christie and his Blue Flyer are due to arrive for the necessary tuning-up process preparatory to the opening of the races on Friday. Tomorrow the F. A. La Roche Co.'s 80-horsepower Darracq, Hollander and Tange-man's Fiat, Jr., and the Ford Phantom will be on hand. The influx of cars from New York, Philadelphia and Atlantic City is expected to be enormous, judged by the already large list of inquiries for accommodations received by the automobile club's reception committee at its headquarters in the Stockton hotel. There will be an unusually early routing out of contestants and spectators next Friday morning, for the tidal conditions necessitate the starting of the events at 8 o'clock. The beach will be patrolled during the races by special officers and no one but contestants and officials will be allowed on the course. Races will all be run in one direction and cars that have finished their races must return to the starting point via the boulevard which parallels the beach and access to which will be had by means of an inclined runway beyond the finish line.

GLIDDEN CUP AWARDED

Buffalo, N. Y., Aug. 19—Fifty automobilists, including many of prominence, attended a banquet last night, tendered by the Automobile Club of Buffalo to Percy Pierce, in recognition of his victory in the Glidden tour. President A. H. Knoll, of the Automobile Club of Buffalo, presided and at the head table with him were W. C. Temple, of Pittsburgh; George N. Pierce, E. E. Schwarzkopf, of New York; Charles Clifton, president of the Association of Licensed Automobile Manufacturers; Dai H. Lewis, Percy P. Pierce, Asa Goddard, of Worcester, and William H. Hotchkiss, president of the New York State Automobile Association.

Praise for the victory of Mr. Pierce and expressions of opinion that the true field of the automobile is touring, not racing, made up the burden of the speeches.

END MOTOR CYCLE MEET

Postponed Championships Run Off, Fred Hoyt and J. Derosier Capturing All Titles

Boston, Mass., Aug. 19—Fred Hoyt and J. Derosier, two old-time professional cyclists, but simon pure amateurs in the eyes of the Federation of American Motocyclists, divided the honors at the national championship race meet of that association held at the Charles River Park track yesterday afternoon. Hoyt won the 1, 2 and 10-mile championship. While Derosier walked way with the 5-mile championship, the ½-mile open and the 1-mile open. These events were those carried over from last week owing to the storm of that day, and like all postponed events failed to attract the attention or attendance that the character of the contests warranted.

In addition to being winners of the events, both men went out for the mile motorcycle record now held by Albert Champion at 55% seconds. Hoyt came within a second of equaling the performance of the daring Frenchman, clocking the mile in 56% seconds, while Derosier could do no better than 59% seconds. Bob Schultz, who also tried for the mile, did 1 minute 3% seconds.

As a whole, there was really little competition in any of the races, the majority of them being runaways and a fight for second place. The fastest mile recorded in competition was made by Hoyt in the 5-mile championship, the second mile in which was ridden in 59% seconds; although in the first try at the mile championship Derosier, with a flying start, did the distance in 58% seconds. It was later discovered, however, that championship events should be from a standing start and the race was ridden over, the victory this time falling to Hoyt.

There was a fine display of generalship on the part of Derosier and Kellogg. In one contest the latter made the former ride wide on the turns and thereby prevented his scoring on him. Later, however, Derosier turned the tables on Kellogg and in the 10-mile championship it was as pretty a race as one could wish to see for second position, Derosier keeping Kellogg up on the bank for sev-

eral miles, then forcing him to give up the battle. These three men, like several others, used two-cylinder machines, and the way they drove them made one's hair stand on end. At times three men made the turns from the stretches abreast, and it looked as though a mishap would surely occur.

In the ½-mile open Kellogg won his heat in ready manner, running away from Green and Cobe, and in the second heat Derosier and Wyatt rode to qualify for the final. This latter went to Derosier with Kellogg second, there being no real competition. In the 5-mile championship, the event which witnessed fast time, Gray Green ran into the lead but soon lost it to Hoyt, and then was passed by every man in the race. At the half-way point Hoyt had a mortgage on the first position and finally won the race by almost a full lap over Derosier, the second man.

C. A. Libby and Ralph Wyatt were the only men who showed their rear wheels to the two prize winners. They did this in the heats of the mile open, Kellogg and Derosier being the other starters in the final. In this latter Libby got going first and opened up a wide gap and looked a sure winner, with Derosier second. The starter fired the revolver denoting the close of the race one lap too soon. Libby was then in the lead. The men sat up and coasted the next lap, Derosier coasting over the line in first position, as he finished first the race was given to him. Derosier won his championship at the 10-mile distance in a walk, being a lap ahead of his second man, Kellogg, and several ahead of the others. The 2-mile championship was easy for Hoyt. The summary:

Half-mile, for stock cars—J. Derosier, Indian, first; Stanley Kellogg, Indian, second; H. H. Cole, Metz, third; time, :38 4-5.

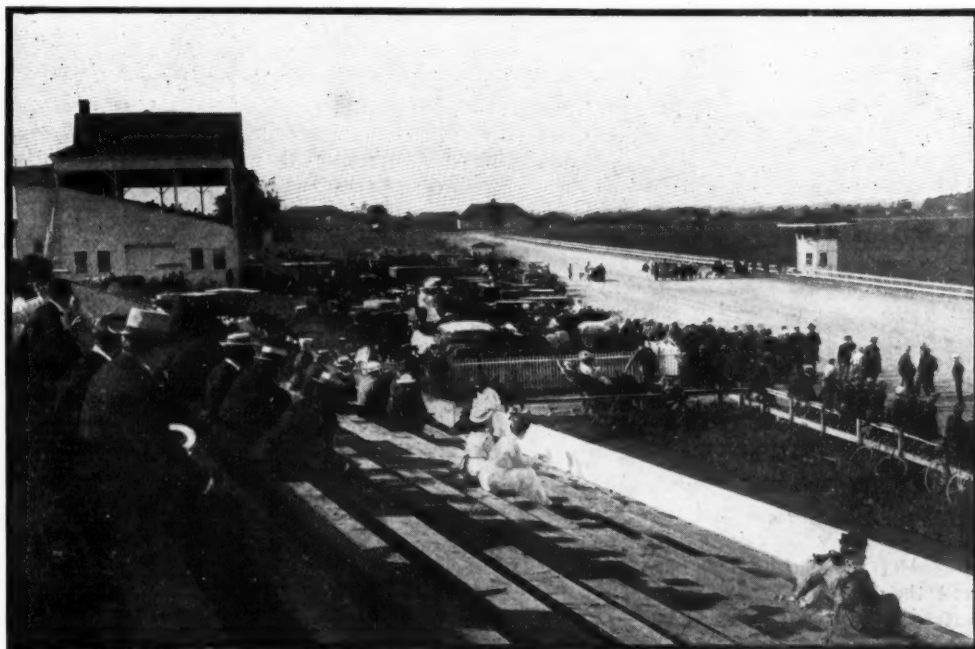
Ten-mile championship—J. Derosier, Indian, first; Stanley Kellogg, Indian, second; Gray Green, Metz, third; time, 1:10 4-5.

One-mile national championship—Fred Hoyt, Indian, first; J. Derosier, Indian, second; Gray Green, 4-horsepower Metz third; time, 1:10 4-5.

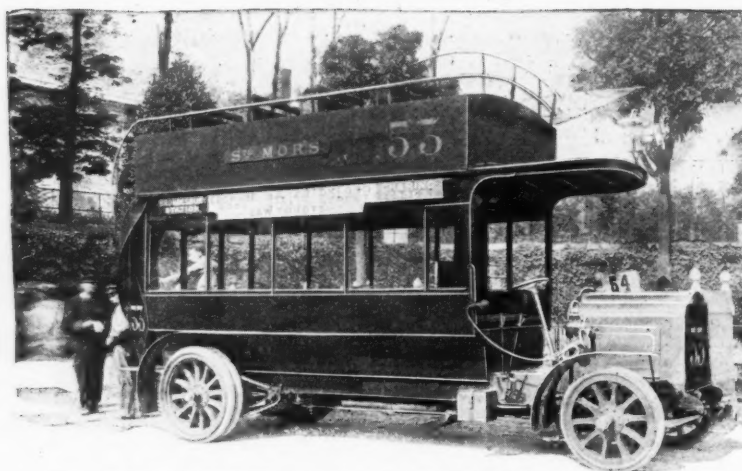
Five-mile national championship—Fred Hoyt, Indian, first; J. Derosier, Indian, second; Stanley Kellogg, Indian, third; time, 5:12 2-5.

One-mile, flying start—J. Derosier, Indian, first; C. A. Libby, Metz, second; Stanley Kellogg, Indian, third; time, 1:17 1-5.

Two-mile national championship—F. C. Hoyt, Indian, first; Stanley Kellogg, Indian, second; J. Derosier, Indian, third; time, 2:10 1-5.



VIEW OF THE GROUNDS AND TRACK AT LONG BRANCH



MORS THIRTY-PASSENGER BUS WITH ENGLISH BODY

THE REALM *of the* COMMERCIAL CAR

FRENCH ENDURANCE
TRIALS ENDED

Paris, France, Aug. 9—The reliability trials of commercial automobiles, conducted by the industrial committee of the Automobile Club of France, ended in the Tuileries gardens here yesterday, from which place they started on July 28. The trials were international in their nature in that all countries might compete in all classes except that of the military wagons, which was confined to France alone. But while they were international few nations embraced the opportunity offered by them, Germany and Switzerland being the only outside nations competing. Of the sixty-five machines entered for the trials, fifty-seven actually started in the long test and out of this number of starters forty-nine were in line in the procession that filed through the Tuileries garden yesterday when the end was reached. This means that eight vehicles had failed to complete the circuit mapped out by the club, but in reality not this many fell by the wayside, as several machines after entering Paris on the last afternoon of the tests were directed to go to their factories, instead of waiting and forming in the grand procession that formed the finale of the tests. Those absent at this closing function were as much out of the race as the runner who goes the course but fails to cross the finishing line or the sailor who does not pilot his boat across the finishing line, their names not even appearing in the list of those who completed the final stages of the journey.

The end of the trials came at 2 o'clock yesterday afternoon. The last day's run, from Mantes to Paris, 33 miles, one of the shortest of the seven, was in reality a grand parade. The commissioners aimed at making the return of the great commercial caravan as effective as possible and thereby impress upon the Paris population the immensity of the commercial car world. The cars traversed the rural roads entering Paris in a long procession, the winding lines of heavy commercial wagons leading and followed closely by the thirteen passenger vans and the military vehicles. At the end of the Porte-Maillot boulevard a general rendezvous was instituted. Thousands of motorists thronged from Paris and the suburbs, the populace lined every obtainable spot and vociferously cheered the passing cars. The parade, headed by Marquis De Dion in his large white car, moved along the avenue de la Grande-Armee and then ascended the Champs-Elysees and entered the Tuileries. The journey completed, several hours were spent by the populace in examining the machines. Later the military

wagons were taken to the military garage established for the purpose, where they will remain until the committee of management renders its decision on the performances of each. The other machines, one by one, left the gardens for their owners' factories, the people gradually dispersed and the greatest commercial trials ever conducted came to a successful close.

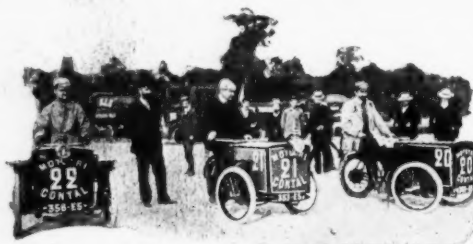
The trials were unique in many regards, and chiefly so in that the contestants kept closer together than is usual in long American tours of pleasure cars. Often many of the machines started within 1 minute of one another and kept that position throughout the entire day. This was chiefly noticeable where several machines were entered by the same makers, in which case the vehicles never let daylight separate them; what one did they all did, and all of the 7 days running was done in Indian fashion, with any of the machines doing the pilot work. This going, one after the other, was possible along most of the roads, as the continual rains that the contestants were treated to kept the dust under excellent control and the sight of two or three big omnibuses going at 20 miles per hour and not more than a few rods apart was common and often long lines of heavy trucks for the carrying of over 2 tons of merchandise followed one another along the dustless roads or through the rain like so many cows going through a gap.

The program of the trials was arranged to extend over 12 days, starting from Paris on July 28. Of the 12 days, 7 were given over to actual running and the remaining 5 to exhibitions of the machines in the towns along the road. The course was from Paris north to Compiègne the first stage, from Compiègne to Amiens the second, from Amiens to Dieppe-on-the-Sea the third, Dieppe to Havre as the fourth, Havre to Rouen the fifth, Rouen to Mantes for the sixth and the short run from Mantes to Paris for the seventh. The seven stages were not run on continuous days, the exhibitions being thrown in between. In Amiens 1 day was spent in exhibiting the

machines, in Dieppe 2 days were needed for exhibition, and in Havre and Rouen a couple of more days were needed, making a total of 5 days for exhibiting. At the exhibitions the machines were not placed in any building where they might be examined by the populace, but were lined up in open parks where those interested in the work of commercial cars could go up and down the long line of vehicles and see how they were standing the trials. No person, however, was allowed to touch the machines, the long lines of police and guards always being indefatigable in their protection of them. The military machines in particular were well guarded and during all of the exhibitions were fenced in by a cordon of wire and pickets, the former holding the latter together and the latter with sharpened points were upright in the ground. This precaution, with this class of vehicles, was necessary as the number of visitors to them was always alarming, the crowds in places surging around them and often crowding so close as to endanger any delicate exposed parts.

The exhibitions were the most successful features of the trials. At Amiens, Dieppe, Havre and Rouen the populace turned out en masse to see the machines and spent hours observing how the different kinds of tires were enduring under the test of all day traveling with heavy loads over the country roads. Other visitors were interested in the general lines of construction of the machines, while many seemed curiosity seekers and were content with a passing glance of the machines and a long look at the other visitors.

The running arrangements of the trials were admirably arranged by the committee managing them. This was chiefly conspicuous by the manner of dispatching the machines each running day so that they all arrived nearly at the same hour in the next control, or all night stopping place. In order to do this the heavy trucks, carrying over 2 tons, were sometimes sent away the evening before so that they might cover 15 miles of the journey before the others had started. Another arrangement to keep the contestants well bunched and still have the fast machines doing steady work was to have a double route between each of the night and morning stops. A course ranging from 35 to 50 miles was mapped out for heavy trucks between morning and night stops and another entirely different course of 85 or 90 miles arranged for the lighter and faster machines. The total distance traveled in the 7 days by the heavy wagons was 336 miles, an average of 48 miles per day, and for the light machines 556 miles or 71 for each running day. The starts were invariably made in the early



THREE CONTAL MOTOR CYCLES

morning, machines leaving as early as 3 o'clock. The daily order of start was determined by the order of arrival on the previous day. Those machines completing the previous day's run first were first away in the morning and the others followed in the order of their arrival. The military

wagons ran along the long stages of the trials each day as did the motor cycles, and delivery wagons carrying less than 1,100 pounds. The passenger vans for six, twelve to fourteen and thirty passengers, were also required to cover the long routes. This meant that the only machines traveling over the short courses were the commercial wagons, hauling loads in excess of 1,100 pounds.

The control at each night's stop was arranged so that any machine entering before 4 a. m. the day following that on which the start was made for the control was allowed to register and was qualified to compete for the awards, but any machines entering after that hour were disqualified, but were permitted to continue the trials and exhibit in all of the exhibitions. The rules of the trials were well enforced throughout. Special observers rode on each wagon, whose duty it was to see the exact route was properly traveled over, that none of the load was dumped off outside of a night control and some more added before entering the next control, that outside help was not used in making some repair alongside of the road and that help was not used in ascending steep inclines or in any of the other places where a team of horses or an automobile could do valuable duty in aiding the contestants. All repair work on the machines had to be done by the operator and the mechanic he took with him, and this work had to be done while outside of a control, no repairs being permitted in the day or 2 days when the machines were remaining idle in some park during an exhibition.

The contesting machines divided themselves into practically three great classes: Machines for carrying merchandise of one class or another, vehicles for carrying passengers in city or rural work and military vehicles. The majority of the entries belonged to the first class, there being thirty-two entries in it, while only thirteen passenger-carrying machines competed and twelve of the military type. The percentage of machines competing in the three classes failing to complete the course was small, only two of the passenger vans not being in the grand parade at the Tuileries at the completion of the tests; all of the twelve military wagons finished the test in fine shape, but five of the heavy wagons had fallen by the wayside or had lost their way after entering Paris at the end of the trials. Of these heavy wagons failing to complete two were trains, consisting of a tractor and one or two trailers, one was a light wagon for carrying a load up to 1,100 pounds and the remaining vehicles were those for carrying over 2-ton loads.

Accidents incapacitated the passenger wag-



TURGAN GASOLINE TRACTOR

ons or vans. The Gardener-Serpollet steam omnibus on the second day of the trip ruined a pneumatic tire by running off the road and had not a chance of replacing it before 150 miles were covered and Dieppe reached. When that point was reached, the bus having made that part of the trip on the iron rim of one wheel, the steering gear was badly wrenched, and by the time Paris was reached the driver was incapacitated. The last part of the trip was made on the iron rim as a new wheel would mean a big reduction in the performance of the machine. One car was disabled by running into a tree and bending the front axle, another upset going down a slight decline by the steering gear breaking and a couple of others collided with other road vehicles and not only injured themselves but blocked the roadways for several hours.

All of France was interested in the performance of the military vehicles. France is pre-eminently military and it is not surprising that this division in the trials should excite attention. All along the country the populace, that lined the line of route, watched these trim vehicles run along at an average of 12½ miles per hour. At times enough of them were following one another to transport the provisions of a little army and on every occasion did they receive the welcome shouts and approval of the people. The running of them was especially commendable, most of them made a uniform average during the entire 7 days, ranging from 10 to 15 miles per hour while on the road. The use of

steel tires on most of these machines made them a point of interest and those fitted with solid rubber tires were closely watched. The solid steel tire, with a plain tread, was one of the wonders of the trials. Many of the military machines so fitted ran along with amazing regularity of speed

and the passengers could scarcely perceive and difference from the pneumatics when traveling at these speeds. The noise was slight and particularly when the roads were level. On hills the hard steel tire worked wonders, all of the entrants taking some of the long 10 per cent grades with ease and descending them with as little difficulty. This was specially noticeable from the fact that often the entire quota of cars ran in a heavy rain, which drenched the drivers to the skin and made the road bed slippery so that if there was much chance of the machines skidding when shod with such tires they had an excellent opportunity, but not a single case is recorded of them skidding into the ditch or even having trouble. The trials have at least shown that for low speeds the steel band is almost as good as the inflated tire and has the advantage of not having any of the puncture dangers.

The use of solid tires on military machines was imperative because of the dictates of the committee appointed by the war office to look after the performances of these machines, who insisted that the vehicles be constructed along lines suitable for army work. According to this the pneumatic tire was the first element to be eliminated, because of its unreliability.

Next to the military wagon, as parade attractions, came the passenger omnibuses, all of which were fitted with bodies of the double deck variety, as used by the leading omnibus company of Paris. Each vehicle carried



LATIL FRONT-WHEEL DRIVE MILITARY WAGON



DAIMLER HEAVY TRUCK

LATEST FRONT WHEEL DRIVE

COTTEREAU 4½-TON WAGON

its full quota of passengers. The running of these machines was one of the features of the trials. Most of them maintained speeds of 15 to 20 miles per hour, for hours at a time, and all displayed wonderful reliability. France is at present interested in this class of vehicles as many rural sections are considering installing lines of them where steam railroads do not run at present and where the traffic would not warrant constructing steel tracks. The performances of the different styles of tires used on these machines and the endurance of each was specially noted by the observers and those who watched them along the route or gathered to examine them in the exhibitions. In passenger traffic tires must stand, as a halt to repair a puncture or change a casing might often mean the missing of a steamboat or train or the breaking of equally important engagements. Accordingly tire makers were ready with the best on hand, and owners of machines entered were careful to fit their machines with what they considered the most enduring makes. Many makers used the double solid tire on the driving wheels, whether the drive was through the front or rear wheels. These tires came through the test well, although the exact story of their performance will not be known until the final report of the committee has been made. It was noted all along the route that machines fitted with these tires ran at 20 miles per hour without any undue shaking to the passengers or machinery of the car and it was also apparent that tire troubles were absent. Where this type of tires was used on the driving wheels pneumatic tires were always used on the other wheels. A few of the omnibuses used pneumatic tires on all four wheels, but the machines were generally of the six-passenger class and those carrying fourteen and thirty passengers used solid tires of either the double or single variety. The solid tires wore well. An examination of several in the Tuileries garden at the completion of the tests revealed the fact that on some the wear of the 556 miles could scarcely be noticed, not a cut or the slightest chipping of the tread being visible. In others sharp stones had done their work. The pneumatic tires used did good work, many not showing a bit of the canvas worn and several having completed the trials without a puncture. As to the honors carried off by any particular make of tire little can be said. Both the Peter and Michlein brands did fine work.

The big commercial wagons were not the magnet many expected they would be, a fact which shows that France is not yet commercially motorized as is England or Germany. While the entry of machines in this class was more than double of that of the military

and passenger vehicles combined, yet the enthusiasm of the populace was not so proportioned. This class of machines was conspicuous by the fact that in its number only one large steam wagon was used, the others being gasoline, with the exception of one electric wagon, to carry over a 2-ton load. The steam wagon is as yet much of an experiment in France as is the double opposed horizontal motor. The one steam wagon entered did not give a promising performance and was not in the long procession that marked the completion of the tests.

Not the least interesting part of the grand entry into the Tuileries yesterday was the appearance of the three Contal motor cycles, the only machines of their class that contested. Each carried 110 pounds of baggage in a cubical box in front of the driver, the machines being three wheelers with the single driving wheel at the back. The machines were three of a kind; where one was the other two were. They left controls together each morning, were never a stone's throw apart during the day and finished in a bunch at the night control. In the exhibition they stood side by side, small in comparison with the other vehicles, yet reliable to the extreme. They did the 556 miles without a hitch, carrying the operator and 110-pound load, through the rain and along the smooth roads, with an ease not surpassed by that of the military wagons or the passenger omnibuses. Each finished with a perfect record and in perfect shape.

The performances of a few of the machines were, so far as can be learned at this date, very satisfactory. Among the first to be noted are the eight de Dietrichs, all of

which were in the finish. The machines ran smoothly throughout and the omnibuses were specially creditable in their work. Not a stop was made on several of the runs and machinery adjustments were not necessary.

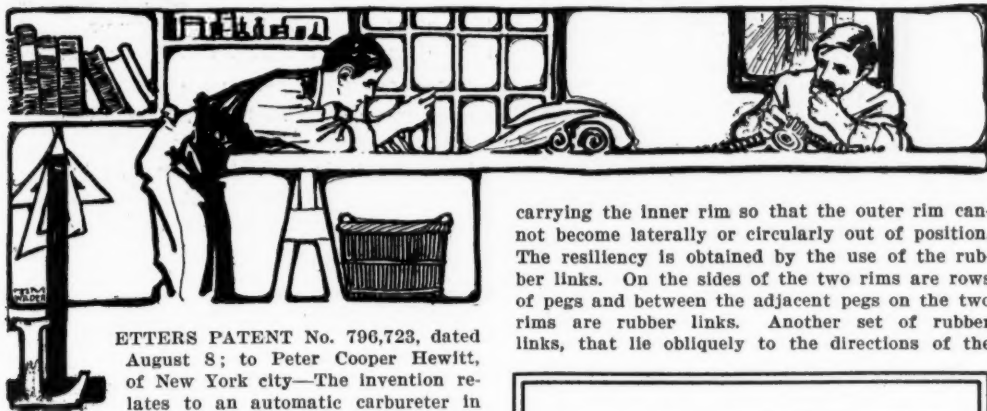
The four Peugeot vehicles made extraordinary brilliant performances. The leading feature of these cars was the small amount of fuel used for loads carried and speeds made. The figures of consumption given by the committee show that these machines ran on 40 per cent less fuel than needed by others in their class. The 10-horsepower, two-cylinder, ten-passenger bus averaged 12½ miles per hour throughout the trip. From Amiens to Dieppe, 83 miles, 6¾ gallons of gasoline were needed, whereas other machines used as much as 10 gallons. Taking the cost of gasoline at 50 cents per gallon, the price in places along the route, the cost of hauling the passengers 83 miles amounted to \$3.20 or 32 cents per passenger. This means that each was carried at practically 1/3-cent per mile for fuel. The 83 miles were covered in 7 hours, a speed of 12 miles per hour, a good speed over wet roads with a constant drizzling rain most of the way. The amount of gasoline used by a few other machines on this 83-mile stage of the journey was given out by the committee appointed to note the consumption of fuel. The six-passenger de Dietrich bus consumed 9½ gallons, the other six-passenger de Dietrich used slightly less than 9 gallons, and the fourteen-passenger Gillet-Forest wagon required over 11 gallons.

The Dufour truck, the Swiss entry, driven by a 16-horsepower motor, averaged 9 miles per hour throughout the 7 days.



ARIES' MILITARY WAGON WITH WOOD WHEELS

CURRENT AUTOMOBILE PATENTS

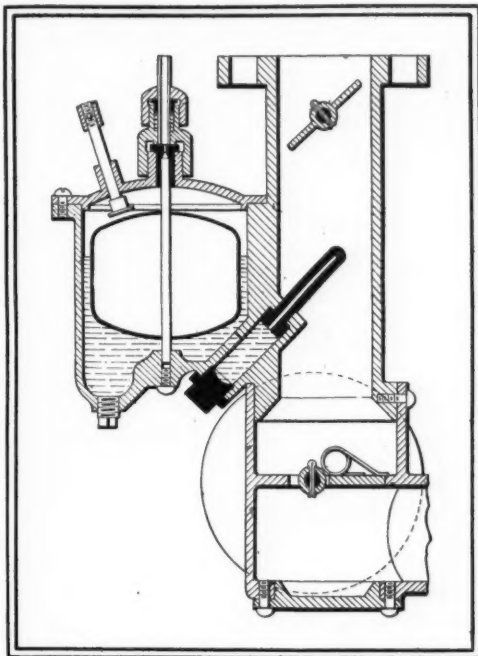


LETTERS PATENT No. 796,723, dated August 8; to Peter Cooper Hewitt, of New York city.—The invention relates to an automatic carbureter in which the air supply is controlled by a valve. The float chamber is separate, with fuel entering at the top and passing from near the base to the vertical pipe-like mixing chamber through an oblique tube. In the bottom of the mixing chamber is a valve for controlling the entry of the air, and the mixture passes out through the top of the mixing chamber, with a throttle in the top for controlling its passage. The invention relates chiefly to the valve at the bottom of the mixing chamber for controlling the entrance of air. This valve is not spring controlled, as it usually is, but carries a weighted wheel, which is in equilibrium at any point. The object of the weight is that the opening and closing of the valve is retarded by the wheel, so that the aspirations of the motor are gradually controlled. The movement of the weighted wheel is also effected by a coil spring, one end of which is secured to the wheel and the other to the valve seating.

Letters patent No. 796,712, dated August 8; to David Fergusson and Charles L. Sheppy, of Buffalo, N. Y.—The carbureter described has a float in a separate chamber with a horizontal passage connecting it with the bottom of the mixing chamber, in the bottom of which is a vertical spraying nozzle. Surrounding the spraying nozzle is a stationary casing contracted near the nozzle so that the intruding air will mix with the flow of gasoline. In the top of the casing is a series of holes by which the mixture can pass to the motor. Directly above this casing is a supplementary valve, under control of a spring, and dash pot in the top of the mixing chamber. This supplementary valve has numerous holes, which remain closed when the valve is at rest but which admit mixture when the motor suction raises the valve. The spring is used to close the valve when the motor slows and suction ceases. With the motor running at low speed the supplementary valve is not used, but with the slightest increase in speed the valve commences to open.

Letters patent No. 796,625, dated August 8; to Raoul Bernat, of Bordeaux, France.—The inventor's spring wheel has two rims, held together and apart by two series of endless rubber links fastened to each rim by wood or metal pegs. The inner rim is rigid on the ends of the spokes of the wheel and the outer rim, several inches greater in diameter, is held in place by short sliding spokes that enter the outer ends of the spokes,

carrying the inner rim so that the outer rim cannot become laterally or circularly out of position. The resiliency is obtained by the use of the rubber links. On the sides of the two rims are rows of pegs and between the adjacent pegs on the two rims are rubber links. Another set of rubber links, that lie obliquely to the directions of the



HEWITT'S CARBURETER

wheel spokes, is also used. When the weight is on the wheel the rims will come closer together at the point nearest the ground and directly above the point of support, so that the rims will be eccentric to each other. As the point of support changes the rubber links will give and take, those ahead of the point of support contracting, while those at the other side begin stretching until the highest point of the wheel is reached. On the outer rim is a tread of solid rubber, steel or wood, as the case requires. The life of the wheel is dependent on the life of the rubber links.

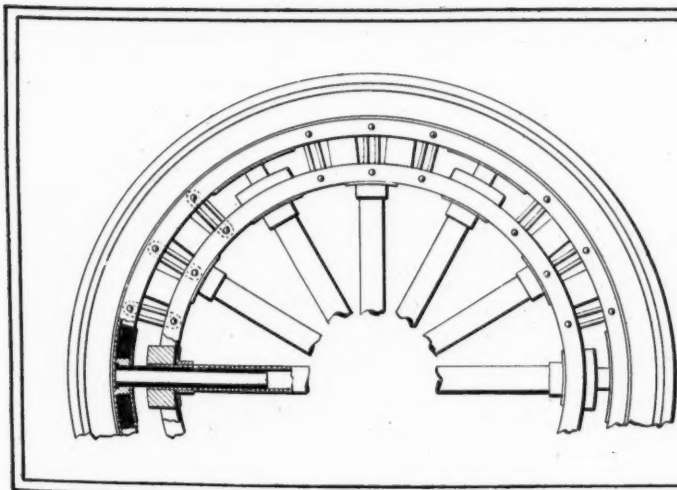
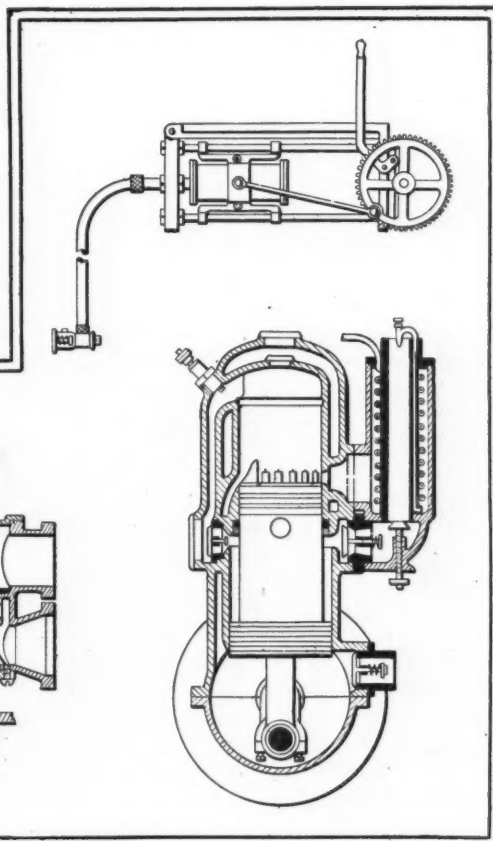
Letters patent No. 796,449, dated August 8; to Samuel N. Rapp, of Detroit, Mich.—The inventor's device is an air pump for inflating tires. The pump is driven from the motor of the car. On any convenient part of the chassis is attached a framework with a pair of guides. In these guides are clamping arms and to these arms the cylinder is pivoted. Within the cylinder is a stationary piston and to one end of the pump is connected

hose leading to the tire. The cylinder is reciprocated on the guides by a connecting rod secured at one end to the center of the sides of the cylinder and at the other end to a large spur gear that can be thrown, at will, into mesh with a small pinion on any drive shaft of the motor of the car by means of a vertical lever extending through the footboard of the car. In the end of the cylinder, to which the hose to the tire is attached, is an automatic valve, through which the air is drawn from the outside when the cylinder is drawn towards the drive wheels and when the cylinder is on the return the valve closes and the air passes to the tire. This pump is directly opposite in its operation to most of its class. In the ordinary pump the cylinder remains at rest and the piston reciprocates, but in this one the piston is stationary, the reciprocation being by the cylinder.

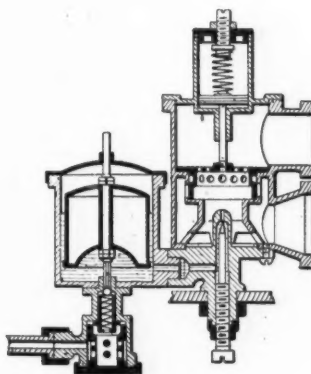
Letters patent No. 796,686, dated August 8; to Henry O. Westendarp, of Saugus, Mass.—The explosive two-cycle motor described has many unique features. Foremost among these will be noted that the cylinder and piston have two diameters, that part of each nearest the combustion chamber being smaller in diameter than that nearest the crank chamber. The smaller part of the piston when on the down stroke uncovers an exhaust passage in the side of the cylinder. When it is on the suction stroke gasoline mixture is drawn into the large part of the cylinder. Air is drawn into the crank chamber through an automatic valve in one side of the crank case. In one side of the cylinder wall is a conduit leading from the crank case and connecting with the combustion chamber and with the larger part of the cylinder. On the suction stroke as soon as the pressure in the combustion chamber is less than that in the crank case, air passes along the conduit into the combustion chamber and aids in driving out the burnt gases. On the back stroke mixture is also sucked into the combustion chamber through the conduit, but the mixture is not permitted to enter the combustion chamber until the air has entered. On the compression stroke the mixture in the large diameter part of the cylinder is forced through the conduit into the combustion chamber through a second conduit, the passage to which is controlled by an automatic valve. The mixture is thus partly sucked into the chamber and partly forced in by the large diameter part of the piston.

Letters patent No. 796,435, dated August 8; to Jacobus Langellaan, of Berlin, Germany.—The inventor's storage battery grids resemble cross section of pickle bottles and are united by the neck part of one grid being secured to the bottom part of the adjacent one.

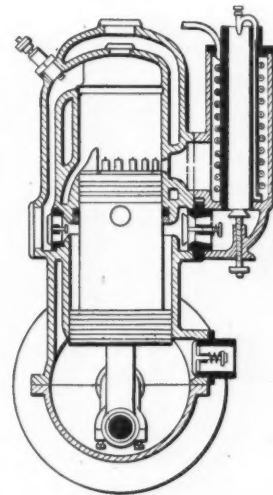
RAPP'S AIR PUMP



BERNAT'S SPRING WHEEL



FERGUSSON AND SHEPPY CARBURETER



WESTENDARP'S TWO-CYCLE MOTOR

From the Four Winds



CLYDE FITCH AND VIOLA ALLEN
IN THE LATTER'S LOCOMOBILE AT HER HOME

Another Endurance Run—Well satisfied with the success of the endurance run from Los Angeles to Santa Barbara, the motorists of the former city are planning a similar trip to San Francisco. Four days will be taken for the trip to the metropolis.

New Cars Registered—New cars are being registered at Albany, N. Y., at an average rate of over fifty a day. From Monday to Friday 2 weeks ago, for instance, there were 201 registrations, which included: Cadillac, 15; Oldsmobile, 14; Pope, three makes, 13; Winton, 10; Maxwell, 9; Autocar, 8; Reo, 7; Ford, 7 and White, 7. Nineteen foreign cars were registered at the same time.

Theatrical Recruits—Two recent motoring recruits are Miss Viola Allen, the actress, and Clyde Fitch, the playwright. The latter has written *The Toast of the Town* for Miss Allen and, of course, it was necessary for Mr. Fitch to run down to the actress' country home near Greenwich, Conn., to consult her about the details. While there Miss Allen often took the playdight out for rides in the big Locomobile she owns.

Empire State Clubs Want In—Directors of the New York State Automobile Association will meet at Syracuse some time during the week of September 11-16. Applications for the admission of Watertown, Richmond County and the Cattaraugus County clubs are to be voted upon and possibly Oswego and Niagara Falls. It is probable at the meeting of directors that matters of legislation will be taken up and some decision made as to a bill to be introduced into the legislature.

Liveryman a Recruit—The passing of the horse is even recognized by the liverymen in Milwaukee. It's no longer a joke even with them and the first announcement by a liveryman of his intention to supplement his horse power with automobiles came this week. "There is no denying the fact that the increase of automobiles has cut a swath in our business," says Charles Dunbar. "We have seen the necessity of supplying our patrons with anything they want. Consequently we have decided to erect a garage and rent or store automobiles." So the livery firm of C. B. Dunbar & Co., 2815 Dunbar place, of

which Charles Dunbar is a member, will build a garage at Dunbar place and Washington avenue. This will be the first livery firm in Milwaukee to take such steps.

Cheap at Half the Price—The Trinity Lutheran church, Findlay, O., gave an automobile social one evening recently, 10 cents being charged for each ride, which also included refreshments which were served at the home of one of the members.

Follow Kaiser's Example—Royalty, especially German royalty, recognizes a good thing in the automobile. The kaiser has set the example and his family has followed him in the new sport. Prince Henry of Prussia and the crown prince and his bride are familiar sights on German roads, whirling along in a big car, with two liveried servants on the front seat of the regal machine.

New Idea for Tourists—The Automobile Club of Syracuse is considering some plan to make it easier for tourists to enter and leave the city. Many get lost and lose valuable time. They can follow the maps on the country roads, but it is impossible to make their way through the cities without being directed. There has been some talk of scattering confetti along the proper route and keeping it fresh so there can be no mistake on the part of the tourists.

Plan Novel Outing—Employees of the H. H. Franklin Mfg. Co., of Syracuse, and the Smith Premier Typewriter Co. are planning to hold a joint outing at Long Branch Saturday. The most interesting feature will be a push-ball contest between the automobile workers and the typewriting machine employees. A meet will be held between the two factories along the line of a college meet, each event counting a certain number of points which will be added up for a grand total. There will be a handball game, a tug of war, 50 and 100-yard dashes and several other track events. The employees winning the greatest number of points will be awarded a trophy



cup valued at \$100. In the evening there will be a prize waltz, a bowling contest and a big display of fireworks. Former Lieutenant Governor Timothy L. Woodruff, now president of the typewriter works, will be present.

Rides for Patients—The trustees of the Pennsylvania state asylum at Norristown believe that automobiling will have a beneficial effect upon their patients. They have petitioned the state for sufficient money to purchase several cars to be used for that purpose.

Jaunt in a Reo—John B. Rogers, of Fostoria, O., and H. F. Koopfer, of Wooster, O., have completed a run of 850 miles from the Buckeye state to New York City. Driving a Reo runabout, they made the trip of 850 miles by the lake shore, Buffalo and Albany route in 8½ days. They put their running expenses for the trip at but \$10.25 for gasoline and \$1.50 for lubricating oil.

National Kind of Record—Dr. Bird and R. Holmes, of Los Angeles, claim a new kind of record between their home city and San Francisco. In two Buick cars they covered the distance in 10 days—a slow record, they assert, that will be hard to beat. In the tonneau of one car were packed blankets, tents, tent-stakes and the wardrobe of the party, while the other carried a gasoline stove, cooking utensils and even a refrigerator. The party is headed for Portland.

Want Radical Legislation—From Mexico, Mo., it is reported that there is a movement on foot to secure legislation which will prevent the use of automobiles in the state except in St. Louis and Kansas City. It is proposed to circulate a petition among the citizens of Audrain county to be signed by all who oppose automobiles using the public thoroughfares, and then call a convention in Mexico. This gathering will ask for the introduction of a bill into the legislature prohibiting the use of the automobile in the country districts of the state.

Pittsburg After Taxes—Pittsburg expects to file 500 suits against motorists who have failed to take out licenses for the present year, due July 1. A penalty of \$25 in each case is to be exacted and as 505 of the 713 cars registered are said to be delinquent, the city counts on picking up \$12,000 additional revenue. The regular license fee is \$10 for two-seated cars and \$6 for single-seated ones. The delinquents have not paid because a test suit was pending, contending they are not obliged to pay a city as well as a state tax. The test suit was lost by the motorists, hence the threatened suits.

Scorching Evil On Beach—Since the announcement that Atlantic City had entered the lists as a beach racing resort the officials and residents of Ventnor, which is at the upper end of the beach course, have been bothered to the point of distraction by would-be Barney O's and W. J's who persist in burning up the boulevard which runs from Atlantic City to Longport. Hatless and coatless, with hair flying and goggles effectually disguising them, these would-be record-breakers whisk through the little town in a twinkling, much to the alarm, not to say danger of the cottagers and their children who are compelled to cross the boulevard to reach the beach. The town council has appointed four officers to apprehend future fracturers of the legal speed limit, and it is quite possible that

a few of the B. O.'s and J. W.'s will be compelled to boost the Ventnor treasury before the practice is discontinued.

Not "Mr. Dove"—Chicago policemen who journeyed to Brockton, Mass., failed to identify George Lawrence Marsh as the mysterious "Mr. Dove," supposed murderer of William Bate, the Chicago chauffeur who was killed near Lemont last November. The case against Marsh has been dropped.

Queen In Danger—According to cable advices from Turin, Queen Margherita, mother of King Victor Emanuel, who is making a tour of the Alps in an automobile, was the victim of an attempted assassination while ascending the Little St. Bernard in her automobile. The machine struck a barricade of stones placed at a dangerous turn and was upset. No one was injured. Two arrests have been made.

Car Helps Bridegroom—James S. O'Donnell, of Syracuse, outwitted a lot of his friends recently with an automobile. He found they were preparing to tie white ribbons to the carriage, throw old shoes, rice and do many other things that have come to be thought necessary for a twentieth century wedding. He decided to fool them. He was married at 5 o'clock in the morning, jumped into a big touring car and was driven rapidly to Utica, where he took the train for his wedding journey. His friends did not wake up until after he had escaped.

Kick Bears Fruit—As a result of the kick of Philadelphia automobilists over the horrible condition of the old road over the meadows from Pleasantville to Atlantic City, work on the new pike across the marshes from the mainland is being pushed with all possible speed, and the board of freeholders has announced that the new road will positively be opened on August 31. In consequence the managers of the series of beach races which were to have been run off over the Ventnor-Longport course a week earlier have been postponed till September 2 and 4.

Kept Out of Big Park—Parties touring through the west find that they cannot take their automobiles into Yellowstone park by the southern route this year. It is reported that several have paid the \$25 toll fee exacted for each car as well as the \$5 for each passenger, but have been forced to leave their cars at the edge of the valley, only getting 26 miles from Wawona. The stage people, it is reported, claim that most of the grades are too steep for motor cars and too narrow for them to pass the horse-drawn stages, while the horses are liable to jump off the grade with the stageful of passengers at the sight of an automobile on the road.

Toledo Plans \$50,000 Club House—A syndicate, which has been in process of formation for the past few weeks, is planning to purchase "Fallen Timbers," a historic spot in northwestern Ohio, about 10 miles south of Toledo, and overlooking the broad expanse of the Maumee river valley. The syndicate, which will be composed of owners of automobiles in Toledo and that section of the state, are planning to erect a \$50,000 club house for automobilists. The tract is composed of 207 acres of land, including the battlefield of Fallen Timbers at Turkey Foot rock. The tract was recently purchased by John Huebner, of Toledo, who has given an option to the syndicate until next Saturday for the pur-



CONVERTING LOUISVILLE'S CHIEFS

chase of the land. Another feature of the improvement of the historic spot will be a 2-mile cement boulevard, 200 feet wide, not for speeding purposes, but for pleasure touring. The house is to be built back of the present site of Turkey Foot rock and the historic rock placed on a pedestal in front. It is stated the club house will be completed for use next season at the very latest.

In the Yosemite Valley—L. L. Whitman, who with Mrs. Whitman, is touring the Yosemite valley in a Franklin car, carrying a camping outfit and putting up their tents anywhere they care to stop, recently wrote the following letter to a Syracuse friend under the date of August 4: "We are progressing nicely on the touring and camping expedition. We have been down the Santa Cruz mountains a few days. We drove the old transcontinental car into what is known as the Big Basin, a state reservation of redwood forests. Ours was the first automobile to penetrate as far as this, 12 miles away, at Boulder Creek, being the nearest place any other car had dared the route, stages being taken from there into Governors' Camp, where we camped three days. A lumber road runs in part of the way and the rest is a new and rough trail. Some places on the grade the road is cut out of the side of mountains just wide enough to pass. One foot from the wheel tracks it drops away 200 to 300 feet, almost perpendicular. We have made some 600

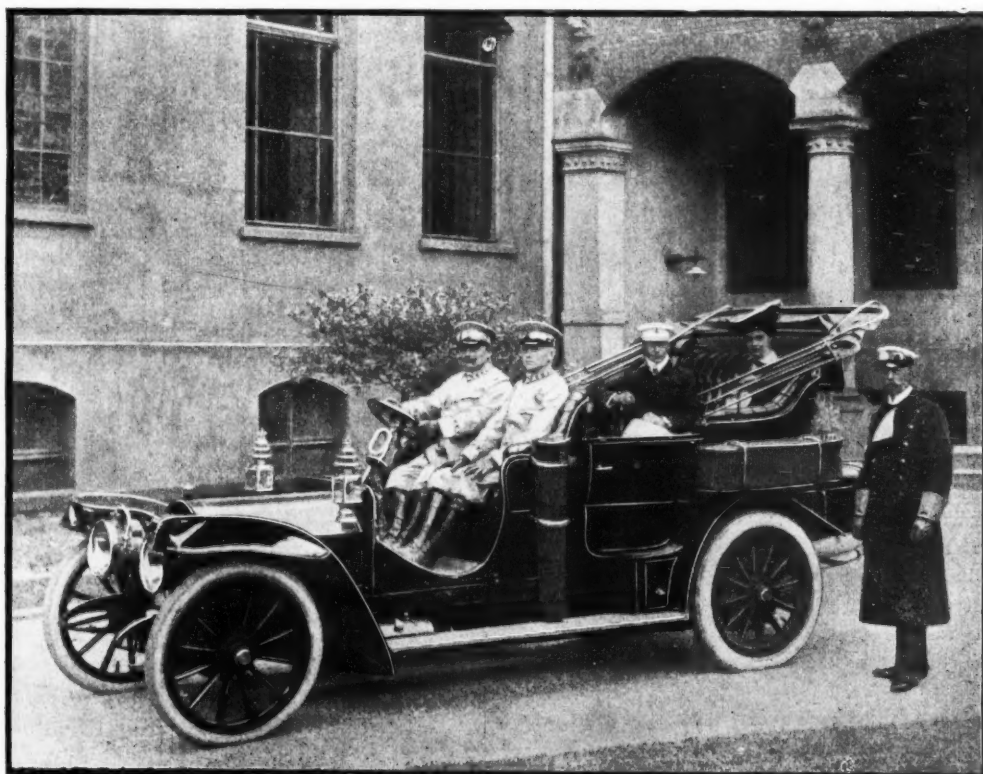
miles in our zigzag wandering up from Los Angeles, making a total of 1,700 miles."

Automobile As Entertainer—The committee on entertainment for the annual meeting of the League of American Municipalities, which convened at Toledo, O., this week, has arranged to give the visiting delegates an automobile tour about the city. It is expected there will be at least 200 delegates in attendance at the meeting of the L. A. M.

Converts the Colonels—Department chiefs of Louisville have been automobile-broke. Chief of Police Sebastian Gunther, Chief of the Fire Department Filmore Tyson and Chief of the Salvage Corps Barney Duffy were recently taken for an outing in a Franklin car, with August Schmidt at the wheel. They all swear by the automobile now.

Wail From Photographers—The latest fad at the summer resorts in the east is to have a picture taken in an automobile. Now every itinerant photographer has to have a dummy car for parties desiring tintypes and consequently there is a holler going up over the added expense. The automobile has displaced the property sailboat and the photographers fear the next thing the people will want will be motor boats in the galleries.

New Way To Prosecute—Attorney George L. King, of New Haven, Conn., has, he thinks, discovered a new way to prosecute automobile thieves. Besides getting after them for trespassing and malicious mischief, he argues that taking a car without permission and running the machine with the supply of gasoline that was purchased by the owner of the car makes a person liable for stealing the gasoline. King claims it would be easy to prove where and when the gasoline was purchased and about how much had been used. If the party took a 20-mile ride there would not be much left in the tank. If only a pint was used the party who used it without permission stole it and is liable to a fine of \$7 and costs, he claims. So far, however, Attorney King has been unable to put his unique contention into actual practice.



GERMAN CROWN PRINCE, HIS BRIDE AND UNCLE HENRY ARDENT MOTORISTS



ROADSIDE TROUBLES

An Ounce of Prevention
Copyrighted by the American Motor League

By Chas. E. Duryea



DAILY INSPECTION—If it is as simple as it may be and should be, five minutes will show you every part of it and this short inspection, coupled with proper oiling of the bearings, filling of the tanks and inflating of the tires, if necessary, will almost certainly prevent roadside troubles.

The same advice applies in less degree to the electric vehicle, for although this is ordinarily brought to the door ready charged, one should know more than merely enough to work the controller. He should know what happens at each position of the controlling lever and what may happen if, with the controller full on, while reversing, he should throw the reversing switch before bringing the controller back to zero; for some vehicles have ample power to upset backwards on a level road under such abuse. He should know where the wires go to and how to connect them at least temporarily if detached or broken.

KNOWLEDGE IS POWER—With the steam vehicle a wider acquaintance is necessary, although since there is no intangible agent like electricity, the acquaintance may be more intimate. The construction of the burner should be understood together with how and why air pressure is necessary to secure proper working. The regulation of the draught, the perfect combustion of the fuel, the proper manipulation of the pumps to secure and maintain the most efficient water level and a full understanding of the manner in which the steam does the work, should be gained, as well as a knowledge of what each lever and valve is for and why used. Knowledge is power and a complete knowledge of the vehicle wipes out roadside troubles almost entirely at one swoop. This knowledge, however, cannot be acquired easily or instantly. It is a growth and becomes almost a part of one's being; so that after some months or years of experience one is inclined to look back and wonder that he could have known so little on the subject.

EVERYBODY'S VEHICLE—Let not this need of knowledge, however, deter any possible user. Automobiling, like horseback riding, walking, swimming, skating, playing the piano or using a typewriter can be readily learned by any one and so common will be the use of these vehicles before many years that one cannot refuse this knowledge, so the quicker learned, the better both for the individual and the public at large. Many will doubt this statement, but history plainly shows that, although progress is made by pendulum-like movements,

the result is always forward, so the automobile movement, having once started, may at times progress less rapidly, but it cannot be stopped. Adverse public opinion, restrictive legislation, war, panic or similar adverse causes may lessen the rapidly growing demand, but the vehicle that can shorten distances one-half, as does the automobile, cannot be ignored by the busy doctor or the economical business man and certainly will not be ignored by the pleasure seekers. Each year it is more reliable, more capable, more easily and safely managed, less costly and therefore more certain to be recognized at its true value by the public. Today many, accustomed all their lives to horses, can see neither pleasure nor profit in the mechanical vehicle; but their opinions, based on an experience with one side only, are of no value as compared with the experience of users of both horses and automobiles, who, almost without exception, recognize and appreciate the merits of the metal motor over the muscular one. The self-propelled vehicle has been a severe engineering problem. Had it been otherwise, it would have been solved long ago, but although most difficult of solution, the solution is here, as proven by the many thousands in satisfactory use, and it now remains for the public to realize that they can and must accept and derive value from this latest and greatest invention and that as large a part of the satisfaction depends upon the user as upon the maker.

Steam Vehicles—The public is so well acquainted with steam engines that not much space need be given them and since they have no mysterious chemical or electrical action, their causes of trouble can usually be seen. A careful tracing of each part to ascertain its connection with other parts and its function, together with inspection to determine whether it is doing its duty or not will generally locate any trouble in short order. There are some features, however, that need attention in case of trouble. Water in the gasoline will put out the fire or cause burner difficulty, and dirt or sediment in the gasoline may choke the vaporizer or clog the gauges designed to prevent this choking. Dirt in the water may stop the pump by interfering with the check valves and thus prevent the boiler from reeding, or if the dirt goes into the boiler, it may clog the inlet to the gauge glass and interfere with its action. Many a boiler

EDITOR'S NOTE—This is the fifth of a series of articles by Charles E. Duryea. These articles will be prepared for publication in book form and will be distributed by the American Motor League to its members during the coming year.

has been ruined because it was empty, although the gauge showed plenty of water, due to the gauge being clogged. It is therefore really advisable that water for a steam vehicle be strained. If the water is hard it deposits lime, which gathers on the pipes in the form of scale, causing them to heat much hotter and which also serves to clog up small passages as does dirt. Leaky joints or leaky valves are to be looked after. They destroy much of the efficiency, although they do not usually prevent running. A steam vehicle because of its many parts, usually requires considerable attention but this attention does not come under the head of roadside troubles for unlike a gas engine it will continue to work and permit the user to continue his journey and make the necessary repairs at the finish. The roadside stop is generally traceable to some defect in the running parts of the mechanism, just as in a gasoline vehicle, so this need not be treated here. Pushing the vehicle a little back or forth, and watching whether the motor turns freely, which can usually be told by the pull on the chain will determine whether the trouble is in the motor or in the vehicle. If necessary the chain can be removed, so as to make sure that the vehicle does, or does not, run freely. If the trouble is in the motor, it will most likely be found in the bearings and due to improper oiling, as in a gasoline vehicle. Sometimes a valve adjustment may be loose, causing the valve to operate at the wrong time. This can readily be seen, however. The most likely cause of stoppage is lack of water and next to this, lack of fuel. Fuel may fail, to flow because of lack of air pressure or because the fuel pump is clogged or because of clogging or some similar defect in the supply pipe or even in the burner itself. The water supply may fail because the tank is empty, because the pump is out of order or some similar and usually easily determined reason. If the pump will not work and there is no auxiliary or hand pump, it is possible to blow out the steam remaining in the boiler and permit the vacuum formed by the condensation as the boiler cools to draw in a new supply of water. This operation will take place quite rapidly, for the incoming water cools the boiler quickly. After filling the boiler well to the top of the gauge, the fire may be again turned on and the vehicle driven until the boiler is all but dry, when the operation can be repeated, thus enabling one to get home or to a place where repairs can be made. Great care, however, must be taken to avoid burning the boiler when the pump is not working.



"Zing-zing-zing," "tinkle, tinkle, tinkle," "buzz-buzz-buzz" or whatever sound the telephone makes on paper, brought the garage keeper to the phone to listen to the complaint of a brand-

new motorist, one so recent that he had yet to discover the difference between his French horn and his muffler.

"I thought you turned my car over to me in apple-pie order," said the voice. It wasn't a meek tone, either, but the angry roar of a man who had plunked down a thousand or so and wanted to see what he got for his money. "Here's this ding-faddled skidoodle of a car making a noise like a threshing machine and your demonstrator has just left me. Something must have busted inside sure, or else there's a hive of bees somewhere in the bonnet or whatever you call that tin thing in front that looks like an upturned wash boiler."

"We'll send our man over right away," said the garage man in tones much as you would expect him to answer a collector sent to get coin for a bill from a dentist for work on his mother-in-law's teeth.

The demonstrator was hustled over to the place only to return in a very short time, disgusted.

"What 'twas?" asked the man who sells the cars.

"You'd never guess," replied the demonstrator. "Try three times and then give up. It was the vibrator. He said that every time he tried to run the car there was the awfulest buzzing noise and he was sure there would be an explosion or something worse. I found it in a minute and I hope you will excuse me if he gets sore because I told him he ought to be tickled to death instead of kicking to you, and that the sweetest sound an owner ever got out of his car was that same buzz which denoted that his ignition was O. K."

"That's a mild case to some we get," was the comment of the garage man.

Indiana's anti-cigarette law was used the other day to play a good joke on Tom Noakes, mechanic for the Adland Motor Co. of Chicago. Thomas is addicted to the use of the weed in paper form and this fondness almost cost him a week's salary. He is a Hoosier himself



and came from Lafayette some 6 years ago, so when Vic Adland recently organized a little party to run down to Anderson in a Lambert car, with Noakes at the wheel, Thomas rejoiced greatly. The factory was reached without unusual touring incident, but on the way back Noakes begged that Lafayette should be included in the route. Adland gave his consent and Tom was a happy man in anticipation of the hero-worship he would receive when his fellow-townsmen saw him in a real automobile.



He was still gloating over his anticipated good time when a stop was made in Frankford. Tom was working on the car and having the makings in his pocket he rolled a cigarette, forgetting the law of the state prohibiting the use of the paper pipe. This furnished a MOTOR AGE man with an idea and he proceeded to put it into execution by approaching a stranger, a traveling man, and asking:

"Will you stand for a good joke?"

The traveling man was agreeable, so the editorial star was loaned him and the joke explained. With the star pinned on his coat, the stranger approached Tom and informed him he was under arrest.

"What for?" demanded Tom, in a bewildered tone, taking the cigarette from the corner of his mouth.

"For violating the law of Indiana by smoking a cigarette," sternly replied the "officer." "You come along with me quietly and it won't cost you more than \$25, seeing it is your first offense."

Tom was all bristles and hauled back for an old fashioned solar plexus punch.

"None of that now. I am an officer of the law and it will cost you dearly for an assault," warned the man with the star.

Adland wandered up just then and innocently asked the trouble, assuring Tom that he would see justice done. But the mechanic wanted to fight, for he saw his promised visit to Lafayette at an end and him digging into his jeans to make up the \$25. So he tried to bluff it out. He argued and argued, but the officer would not relent.

"You give him the \$25 and I'll give you a check when I get to Chicago," pleaded the cigarette smoker of Adland. Not getting any satisfaction this way, he determined to make a fight of it and once more put up his fists.

Then the MOTOR AGE man interfered and talked soothingly to Thomas, pleading that he was so much larger than the officer that he would probably kill him and get the whole party into trouble.

"Better go along quietly and pay your fine," Noakes was told, "and be more careful in the future about smoking cigarettes in your native state when it's against the law."

Then Noakes meekly consented, but the party couldn't stand it any longer, and the peals of laughter from all, including the officer, put Tom wise to the fact that it was all a joke and he the unconscious victim.

The motor dog is the latest, in Chicago at least. Coach dogs are a recognized breed, with their smooth, sleek coats and black and white coloring, so doubtless time will evolve a distinct type for the automobile, probably with goggle markings on the face and long, sharp claws for the purpose of sticking to the seats when the car is going at full speed, for this will be an aristocratic canine without any inclination to work his own passage running back of the car. The motor dog was seen in all his glory the other day when a big touring car whizzed by MOTOR AGE office. Perched on the bonnet of the car and wearing an air much as did Admiral Dewey when he said: "You may fire, Gridley, when you are ready," was a little skye terrier, equipped with goggles, thoroughly enjoying his outing.

"That reminds me of Rags, the dog over at the Autocar place," said an onlooker. "Rags is a good name for him and he is a true motor dog, for he can distinguish an Autocar from any other make simply by the chug of the engine. Jim Levy came down the other Sunday in a runabout and as he drew up at the store he saw Rags playing with a lot of other dogs. Ahead of Levy were several other cars, but Rags paid no attention to them. The familiar chug of the Autocar engine caught his ear, though, and he left his playmates and came running up to the store, hopping into the car when Mrs. Levy got out. He's crazy to go riding every time a rig goes out of the shop and seems to thoroughly enjoy himself. Levy swears the dog can pick an Autocar out from a bunch of automobiles every time."



THE READERS' CLEARING HOUSE

PITCH AND FACE

Rockford, Ill.—Editor MOTOR AGE—Nowadays one reads a great deal about the face and pitch of gears used in sliding gear transmissions. What is meant by these terms, and also in this connection what process are gears subjected to in being case hardened?—S. K.

Two gears, 1 and 2, mesh with each other. CD and AB are their respective pitch circles. The pitch circle is one which is described by a radius from the gear center to the point of contact of the two gears in mesh and is the dimension used in referring to the size of a gear. Pitch, as generally taken, refers to the size of the teeth. When the pitch is given the distance G is always 1-P, so it is seen that on an 8-pitch gear this is $\frac{1}{8}$ inch and on a 4-pitch gear it is $\frac{1}{4}$ inch. Necessarily the 4-pitch is the heavier tooth, its width also being proportional to the pitch. Pitch as thus taken means the number of teeth per inch of pitch circle diameter. That is a 2-inch 8-pitch gear would have $2 \times 8 = 16$ teeth. A $4\frac{1}{2}$ -inch 6-pitch gear would have 27 teeth, etc. Where P=pitch, D=diameter of pitch circle, and N=number of teeth.

$$PD = N \quad \frac{N}{D} = P \quad \frac{N}{P} = D$$

The face of a gear is the length of the tooth, for instance a gear of $1\frac{1}{2}$ -inch face has a tooth length of $1\frac{1}{2}$ -inch and may be of any pitch. There are a great many ways to case harden. Have the drop forged gear rough-turned, but not finished. Heat to a dull red and cool slowly so as to be perfectly annealed. This will remove all internal tension strains. Finish the gear to size in the lathe. Then obtain a cast iron box and line it with fire clay. Put about 2 inches of bone in the bottom and lay the gear in perfectly flat. The parts of the gear which are to remain soft are covered with fire clay. Cover the gear with $1\frac{1}{2}$ inch of bone and place in the furnace, first have covered the box with an iron cover and sealed it with fire clay. The gear remains in the furnace from 8 to 14 hours, when it is removed and dipped into water. This is the method, but there are so many details to watch that it is advisable for the amateur to have this work done by some one skilled in the art.

SETTING VALVES

Harrisburg, Pa.—Editor MOTOR AGE—Will you kindly inform me through your Readers' Clearing House what diameter the valves should be on a motor $4\frac{1}{4}$ -inch bore by 4-inch stroke. What weight should the fly-wheel be? What power should it develop at 1,200 revolutions? How should the valves be timed and how far past center should the inlet valve be kept open.—J. A. KLINE.

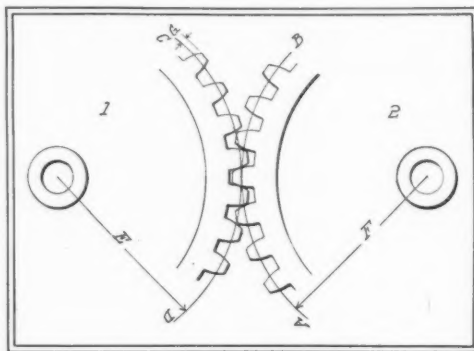
Make both of the valves $1\frac{1}{8}$ inches in diameter and have them timed as follows: Open the exhaust when the piston is within 7-16 inch of completing the stroke. Have the exhaust valve close on the dead center at which time the inlet valve should start to open. Keep the inlet valve open until the piston goes into

the cylinder $\frac{1}{2}$ inch of the compression stroke. If the motor is not run faster than 700 revolutions, reduce this to $\frac{1}{4}$ inch. The proportion of the bore and stroke indicate high speed. The fly-wheel should be 17 inches in diameter, with a rim weight of 80 pounds. At 1,200 revolutions per minute you should obtain 5.7 horsepower.

AGENT COMPLAINS

Salina, Kan.—Editor MOTOR AGE—I am a dealer and read with interest your remarks under the heading Dealers Organize. From the writer's view point it looks as if something should be done for the protection of our capital and business. We place our contracts usually at the Chicago show. We get a discount of ordinarily 20 per cent, sometimes a little better, and put up our money. The writer is the only automobile dealer of consequence in north central Kansas; the only one who carries stock, yet for the past 2 months has had to contend with curb-stone quotations of discount ranging from 20 per cent to 45 per cent on one and sometimes two or three cars in a club to anybody who had seen fit to correspond with some factories. I saw a letter from a standard manufacturer, one who is a liberal advertiser, quoting a discount of 25 per cent to a farmer, living in a sod house in a dreary waste in western Kansas, on one car. I know as a fact that the Wichita agents for this same manufacturer had to buy twenty-five cars in order to get a discount of 20 and 5 per cent. The writer sold ten cars this year at Junction City, and would have sold five more had a certain manufacturer who makes a \$1,250 car, not quoted an \$825 price to an employee of a mill company—making him his agent—and who is now accommodating citizens at Junction City without profit to himself.

There are other evils that hit the dealer hard. I know of manufacturers who, if they were engaged in stealing horses, their calling would be more honorable than it now is. I bought early in the spring of 1904 a certain \$1,250 car, paying a 25 per cent deposit for a delivery guaranteed June 1. I got the car some time in September. When it arrived I brought suit for my deposit and damages, refusing the car, only to find that at that time I was doing business with a certain widow who had a mortgage on the factory. I have \$1,100 tied up in that car today. This spring I



GEARS SHOWING PITCH LINES

bought three cars from a manufacturer whose name and address I am not yet ready to make public. This time I got very prompt delivery, but only one of the cars arrived in good running order. This I immediately sold. After complaining, the company sent an expert who experimented with the cars for nearly 2 weeks and gave up, leaving us with the cars tore apart and short carbureter, air valves and other essentials. It took more than a month for the company to get another man here. This time they sent a competent fellow who soon located the trouble and put the cars in good shape; not, however, until the selling season was over and until the cars had been so thoroughly discredited by the former would-be expert that it is impossible to sell them on this market at any price, regardless of the fact that the make is one of the best in the country. This manufacturer now professes to believe that his obligations, both moral and legal, towards me, as his agent, have been wholly fulfilled. And there is every indication that the writer will have another suit on his hands; this time I hope not with a bankrupt. The dealers of the country certainly should get together for protective purposes and if possible convince the manufacturer that there is a God in Israel and that the decalogue has not yet been declared unconstitutional.—F. L. MARTIN.

POWER AND IGNITION

Fort Collins, Col.—Editor MOTOR AGE—Will you kindly answer the following in your journal: Can the power of a double cylinder 5 by 5-inch automobile motor be increased very much without decreasing the speed? If so, how is it done? This year a manufacturer comes out with the same size engine, but claims an increase of 50 per cent power and the same speed. One manufacturer with smaller cylinders than another claims more power and speed than the one with larger cylinders. How is this? Which is the more economical and the better for a double cylinder engine, one carbureter, or two, and why? Which is used the more and is the better ignition, the jump spark, or the make-and-break, and why?—SUBSCRIBER.

It is quite possible that a manufacturer who last year had a 5 by 5-inch double cylinder motor rated 12-horsepower should come out with a 5 by 5-inch motor rated 16 horsepower. The effect of cylinder design, valve proportions, and carbureter design, together with various other details, have so much to do with power that it is quite possible to have a decided power increase from the same bore and stroke, although 50 per cent seems pretty high. If you had stated the present horsepower claimed an opinion could better be given. For the same reason it is quite possible for one manufacturer to obtain more power from a smaller cylinder than his competitor. As an example, a few years ago a 2-horsepower two-cycle motor would have a bore of 4 inches and a stroke of 4 inches. The weight would be 125 pounds at least. Today a 2-horsepower two-cycle motor will have a bore of $3\frac{1}{2}$ inches, and weigh 70 pounds. The increase is due to improvement in design and manufacture and the amount of increase depends upon the ability of the individual manufacturer. You will not need to use more than one carbureter; two carbureters add complication without gain. The more simple ignition system is the jump spark, as varying the spark lead does not entail the complication of the make-and-break, and does not require moving parts in the cylinder.

MINOR DEVELOPMENT NEWS



Runyen's Oiler—The Runyen positive force feed oiler, for gasoline motors and other automobile parts, are manufactured by James Runyen & Sons, of Redkey, Ind. The oiler is a rectangular chamber with a filling cap on the top, a glass gauge at the side for indicating the amount of oil in it and is secured to the dash of cars. The oiler carries only one pump for any number of feeds. Each outlet is adjustable as to the amount of oil delivered independent of each other, permitting of different quantities of oil being distributed to each moving part of the car. This adjustment is accomplished by a small screw which determines the length of the pump stroke. The pump is free from valves and springs, and is driven through a worm, working in a worm gear, these with the piston being the only moving parts. The same manufacturers have a combined primary and secondary timer for use on gasoline motors. The feature of the timer is that both the primary and secondary cables remain stationary at all times. This construction frees the car operator from any danger of broken cables caused by constantly advancing and retarding the spark. The timing of the primary make-and-break operates in unison with that of the secondary.

All primary contacts are made of hardened tool steel and the secondary spark is always visible through the plate glass covering. The space occupied by it is 3 by 4 inches. The timer is made for attachment on the dash or any part of the motor.

Monograms—Fred H. Rees, Steel Memorial building, Elmira, N. Y., makes a specialty of manufacturing monograms for automobiles. The entire monogram is sawed out of polished brass and is repolished after the cutting. The monograms are supplied in any style of letter and any size convenient for radiators, tonneau doors, ends of seats or other parts of the machine.

Upton's Pump—The Upton circulating pump, for water-cooled motors, is manufactured by the Upton Motor Co., of Lebanon, Pa. The pump casing is inverted heart-shaped, the in-take pipe entering at the side and the outgoing pipe leaving from the top. The pump is of the cam type, the rotating part being a cam-shaped piece on the rotating shaft. The cam part constantly bears upon the inner surface of the pump except at that part adjacent to the outlet pipe. Between the inlet and outlet is a damper for preventing the back flow of water from the outlet pipe.

Use Automobile Cleaner—The automobile vacuum house cleaner has arrived in England, being a product of the Wolseley Tool & Motor Car Co., of Birmingham. With the exception of a vertical four-cylinder motor beneath a bonnet all parts of the car are of special construction. The radiator is very large, offering great cooling surfaces, so that the motor can run for hours when the road wheels are stationary without overheating. A large size rotary pump is used for circulating the water. A change speed gear is used, being connected with the motor through a friction clutch. In the gear case is a countershaft extended at one end to carry a gear that meshes with a similar gear on a special countershaft above and parallel with the one in the gear case and from this special shaft is a silent chain for driving the air pump, there being a device for throwing the pump out of gear. When running the air pump the gears in the gear case are placed in the neutral position. To bring the pump into operation the clutch in the motor flywheel is thrown in and the gear on the special counter shaft meshed with that on the counter shaft. A vacuum chamber is carried beneath the back axle and is built into the frame.

BRIEF BUSINESS ANNOUNCEMENTS

Chaunter, Kan.—The Montague Automobile Co. has opened its new garage here.

Milwaukee, Wis.—C. G. Norton will continue as an automobile agent in other quarters.

Junction City, Kan.—Renst & Renst, handling the Olds and Ford, have opened a place here.

New York—The Motor Car Equipment Co. has moved to larger quarters at 55 Warren street.

Connorsville, Ind.—The Central Body Co. is about to begin the erection of a factory four stories high.

Nashville, Tenn.—E. E. Sweeney has bought out the interest of John T. Landis in the Southern Automobile Co.

Detroit, Mich.—The City Machine Co. has been organized to manufacture automobiles and automobile supplies. Capital, \$25,000.

Washington, D. C.—The Cook & Stoddard Co. will occupy a large building at the corner of Twenty-second and P streets as a garage and salesrooms.

Appleton, Wis.—The Manufacturing Co. of Washington, D. C., will probably open an automobile factory here in the old Remington Watch Co.'s plant.

Morristown, N. J.—The Morristown Garage Co. is building a two-story brick garage at Morris and Pine streets to be completed on September 1. Estimated cost is \$5,000.

Providence, R. I.—Articles of incorporation have been filed for the Providence Auto Garage Co. with \$2,000 capital stock. The storing of automobiles, repairing, renting and sale of supplies is their purpose.

Houston, Tex.—The Houston Motor Car Co. has leased the new building at the corner of Prairie avenue and San Jacinto street, and has opened one of the finest garages in the south. It represents the Haynes-Apperson, Columbia, Cadillac and Union cars, and carries in addition a large line of motor boats and launches.

Huntington, Ind.—Bartlett & Frazier have opened an automobile livery.

Salina, Kas.—E. E. Lohmiller has opened a garage and repair shop.

Lansing, Mich.—The Pocantotas Motor Co. of Detroit has been incorporated. Capital, \$3,000.



RECENT INCORPORATIONS

Milwaukee, Wis.—Milwaukee Automobile Engine & Supply Co., capital, \$6,000. Incorporators: Fred Lederer, B. Amann and John McCabe.

Trenton, N. J.—Lebanon Motor Co. of Jersey City, capital, \$200,000. Incorporators: Collard Upton, Arthur J. Hoverton, H. R. McLaughton.

Cleveland, Ohio—Euclid Garage Co., capital, \$50,000. Incorporators: J. M. Shallenberger, E. C. Root, C. T. Snyder, J. O. Boylan and C. E. Horst.

Dayton, Ohio—Miami Motor Car Co., capital, \$25,000. Incorporators: Pierce Schenck, Charles E. Drury, W. W. Arnold, R. A. Herbruck and Carroll Sprigg.

Springfield, Mass.—Automobile Touring Co., capital, \$4,000; to run an automobile garage. Incorporators: Adolph A. Giesel, Merrill T. White and Barte J. Griffin.

Richmond Boro, N. Y.—Carlson & Russ, capital, \$5,000; to manufacture engines, motors, car trucks and vehicles. Incorporators: Charles O. Carlson, John D. Russ and Carl A. Erickson.

Baltimore, Md.—Automobile Outing Co.; capital, \$1,000; to deal in automobiles. Incorporators: Richard Keating, Jack Q. H. Smith, Jr., Addison E. Mullikin, William C. Conwell and Roland R. Marchant.

New York—Douglas Andrews Co., capital, \$10,000; to deal in motors, vehicles and machinery. Incorporators: Douglas Andrews, Woodmore, L. I.; George W. Schoeneck, 20 Wall street; Charles A. Baker, 10 Liberty street, New York.

Los Angeles, Cal.—J. Bush & Burge have secured agency for the Pierce Great Arrow.

Lansing, Mich.—The Brooks Motor Co. of Detroit has been incorporated. Capital, \$100,000.

Columbus, Ohio—The Columbus Garage Co. has been incorporated with a capital stock of \$2,500.

St. Louis, Mo.—The Union garage has moved into its new building just completed at 4601-4603 Olive street.

Providence, R. I.—The Automobile Lining Pneumatic Co. has been incorporated with a capital stock of \$100,000.

Albion, Mich.—The Ideal Spring Co. has been incorporated with a capital stock of \$25,000. It will manufacture automobile springs.

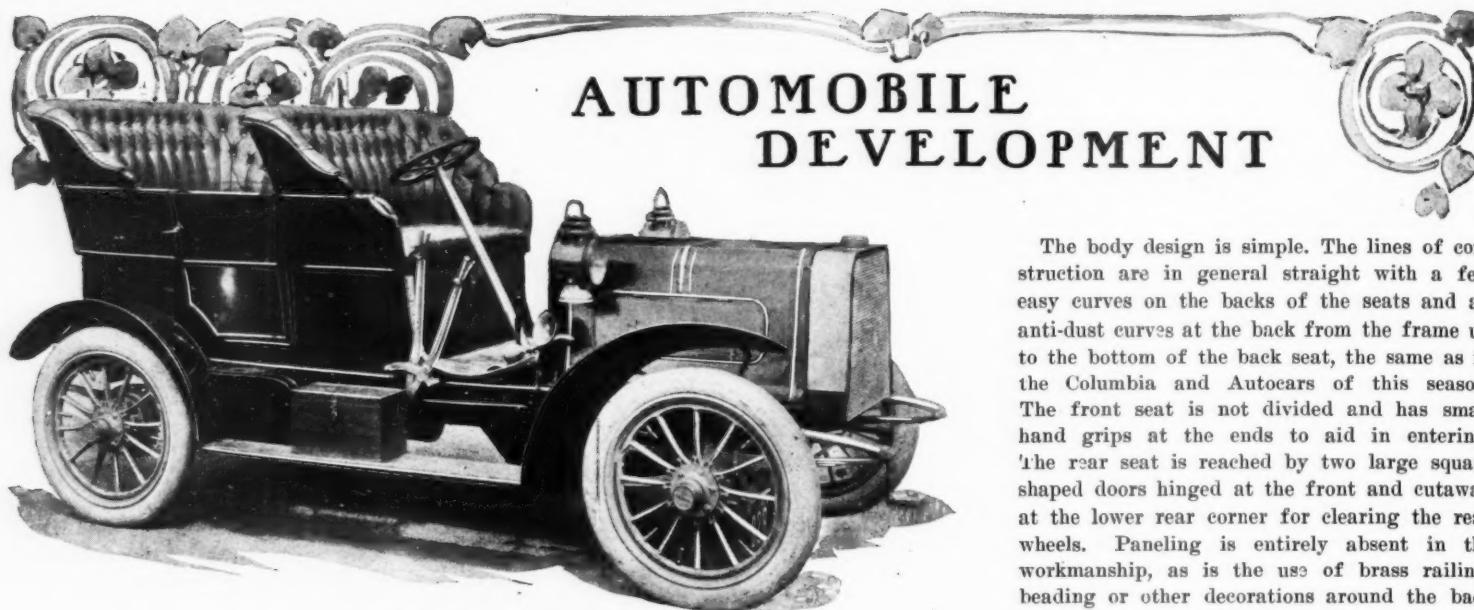
Detroit, Mich.—C. E. Mann has purchased the Michigan Automobile & Carriage Body Co. and will conduct the business as the Michigan Auto Buggy Co.

Plainfield, N. J.—The Frank L. C. Martin Automobile Co. has acquired the building adjoining its present garage. The new building will be fitted up for salesrooms.

Morristown, N. J.—The Morristown Garage Co. has purchased a site at the corner of Morris and Pine streets and will erect a brick garage, to be completed by the middle of next month.

Detroit, Mich.—The Auto Accessories Co. has been formed. Capital, \$50,000. William E. Metzger, whose business has been taken over by the company; David C. McLean, with Lafayette A. Howard, his manager, are interested. They will establish at 365-369 Jefferson avenue.

Cleveland, Ohio—A permit has been granted for a garage building for the Winton Motor Carriage Co. on the south side of Huron street. The Baker Motor Vehicle Co. has also been granted a permit for building a brick factory on Seward street. The Peerless Motor Car Co. has a permit for building a brick factory on Oakdale street.



GROUT GASOLINE TOURING CAR

AUTOMOBILE DEVELOPMENT

THE beginning of Grout Brothers, of Orange, Mass., to manufacture gasoline cars adds another name to the already long list of manufacturers of this class of automobiles in America. Grout Brothers have manufactured steam vehicles for some time, but their initial gasoline machine appeared on the market a few weeks ago. It is a double side-entrance tonneau, with standard body design and chassis construction.

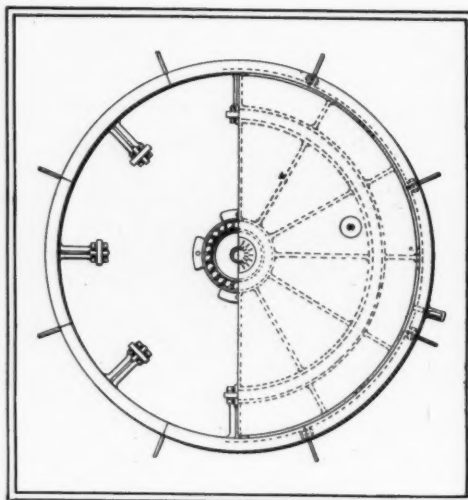
The armored wood frame side pieces terminate in front and rear in extra long spring horns to which are secured the ends of the semi-elliptic springs. The front pair rests on the top of the front axle, being attached thereto by a double set of clips. The rear pair is fastened to the stationary axle in the usual manner. The front axle is a square section forging not dropped in curve-form for engine clearance but is stepped inside where the springs are attached, the dropped portion being straight. Twelve-spoke artillery wood wheels, 30 inches in diameter, support the car and run on ball bearings. The wheels carry 3½-inch tires.

The motor, consisting of four vertical water cooled cylinders carried beneath a regulation bonnet, generates 28 to 30 horsepower at normal speed, but can produce more with higher speeding. The cylinder castings, construction of the crank shaft, connecting rods, as well as the making of the pistons, follow typical lines. Mechanical valves are used throughout and the making of the inlets and exhausts interchangeable is an indication of standardization of parts. A float feed carburetor supplies mixture for all cylinders and the use of jump spark ignition is typically American. The igniting current comes from batteries, carried on the running board at the right side of the car, after which it passes through one coil and a distributor for the four cylinders. Both fan and radiator are resorted to in motor cooling, the latter of the combined tank and radiator type forms the front of the bonnet and is carried directly on the side pieces of the frame. Motor lubrication is cared for by a mechanical oiler, which not only supplies the crank case with oil for splash purposes, but pumps lubricant to the cylinder walls as well as to the more important cylinder bearings. The system is non-adjustable, being set at the factory for supplying oil for all speeds and the filling of the reservoir is all the attention that the manu-

facturers claim is needed for it when in use.

The transmission of power from the motor flywheel to the rear wheels calls into use a friction clutch, sliding gear transmission that gives three speeds and a reverse, all gained through the use of one lever, and a differential counter shaft in rear of the transmission, with sprockets on either end for double chain drive to the sprockets on the rear road wheels. The transmission gear has large sized gears, runs in oil and is in a dust and oil tight case. The sprockets on the rear wheels are rings of teeth attached to the outer face of the brake drums, the brakes within being of the internal expansion type and applied and released by the outer side lever at the driver's right. The brake drum is a casting secured to the wheel axle, eliminating the necessity of bolting either the sprockets or the drums to the spokes of the wheels.

Steering is through an irreversible worm and sector steering gear enclosed in a dust proof case at the base of the steering column. The sector connects with the Lemoine type of steering knuckles in the usual way, the rod connecting the steering knuckles passing in front of the axle. On the steering wheel are mounted the spark and throttle levers, both located on a stationary quadrant, so that their position is unchanged when the steering wheel is turned. The other operating parts of the machine are the clutch pedal, inner lever at the right of the front seat for giving the different speeds and the emergency brake lever.



PLAN VIEW LINK-BELT TURNTABLE

The body design is simple. The lines of construction are in general straight with a few easy curves on the backs of the seats and an anti-dust curves at the back from the frame up to the bottom of the back seat, the same as in the Columbia and Autocars of this season. The front seat is not divided and has small hand grips at the ends to aid in entering. The rear seat is reached by two large square shaped doors hinged at the front and cutaway at the lower rear corner for clearing the rear wheels. Paneling is entirely absent in the workmanship, as is the use of brass railing, beading or other decorations around the back of the seats or dash. The upholstery is in leather. The entrance to the rear seat is facilitated by the use of a step in addition to the running side board. The step forms a covering to the sprocket on the end of the counter shaft. The rear and front fenders are at their lower ends connected with the ends of both running boards. The bonnet is square-shaped and is not hinged in the center, but carries on each side large oblong inspection doors, which can be raised, exposing the entire side of the motor. The bonnet can be lifted off when necessary.

A NEW TURNTABLE

The use of a turntable in the floor of a private or public garage is one of the greatest savers of time as well as space. In many public garages the long rows of pillars prevent quick maneuvering of the cars when they have to be stored away in backward corners, and in private garages the size of the garage may often be very much reduced by the use of a turntable. The turntable permits of the automobile always being stored with the front towards the exit so that speedy removal is possible in case of fire or other emergencies. The Link-Belt Machinery Co., of Chicago, is manufacturing a turntable which is fire proof in its construction and is made for automobiles with wheel bases not exceeding 126 inches. The carrying part of the turntable is a cast iron circular plate which revolves on a ball bearing cast iron pedestal in the center and on a series of rollers near its periphery. The plate is on a level with the garage floor and sits in a concrete pit 12 inches deep. The floor of the pit is concaved so that water running into it flows to the center, where connections are made with a sewer pipe, permitting of all water passing away from the garage. The carrying platform, or revolving plate, is also slightly concaved, so that when washing a vehicle the water will immediately pass off the turntable and enter the sewer.

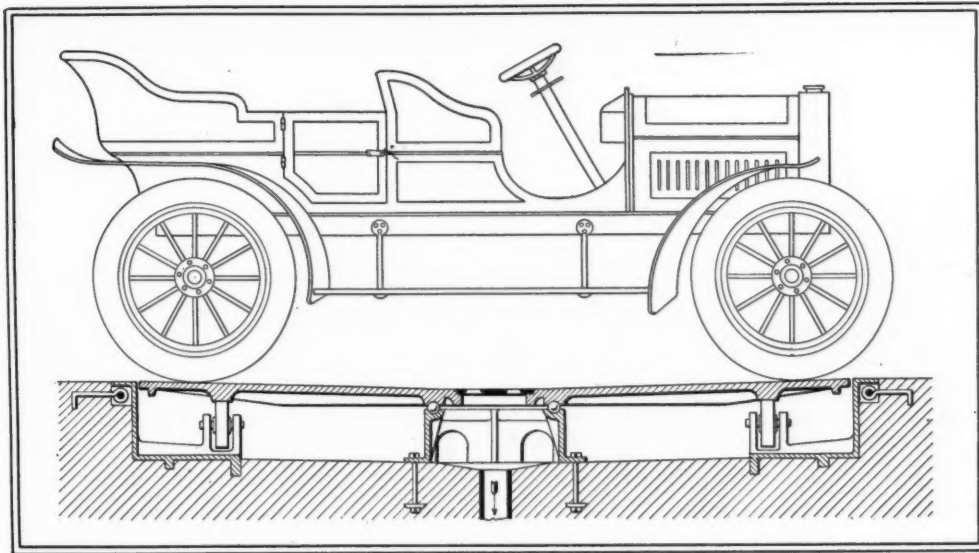
The center pedestal is a circular hollow cast iron support with a solid base bolted into the cement of the flooring and at the top has a circular cone for containing the 2 dozen balls furnishing the bearing surface. The walls of the concrete pit are protected by a steel ring which covers them and also several inches of the flooring adjacent to the walls. The ring is maintained in position by one or two ridges that enter the flooring of the concrete and by several right angle rods fastened to the top of the ring and having their bent parts embedded

in the concrete. The ring is not made in one piece, but consists of eight segments bolted together and on each segment is a roller for carrying the outer part of the turntable.

The turntable has a hole in the center for communicating with the sewer. Two bearing surfaces are on the under side—one a circular cone for resting on the top of the ring of ball bearings in the pedestal and the other a plain ring for resting on the top of the roller bearings, near its periphery. Both sets of bearings are protected so that the water cannot reach them. By packing them in grease they have sufficient lubrication to last for an entire season. The turning of a machine on the turntable is simple and quick. The vehicle is turned by pushing it around, which requires but little force owing to the bearings, and at one side of the turntable is a brake by which it can be stopped at any instant or locked in any particular position. Three sizes are being manufactured: The smallest with a revolving table 126 inches in diameter and suitable for cars with a wheel base not exceeding 100 inches; the second with a 138-inch diameter for carrying cars with wheel bases less than 113 inches, and the third with a diameter of 150 inches and capable of turning machines with a wheel base 126 inches long.

A STUDEBAKER LIMOUSINE

The Studebaker limousine, built by the Studebaker Automobile Co., of South Bend, Ind., follows standard limousine construction in most ways. The chassis is the same as used



SECTIONAL VIEW LINK-BELT TURNTABLE

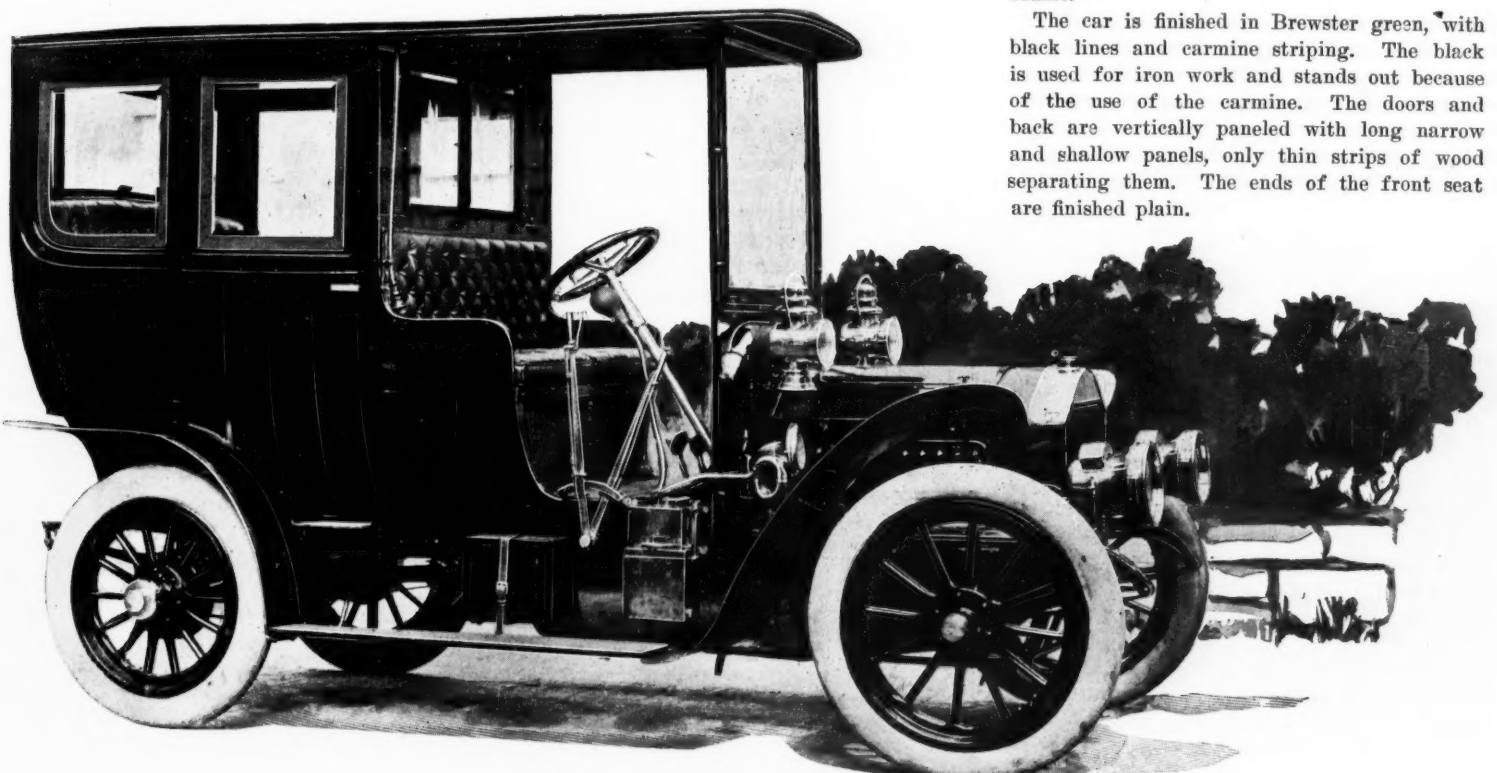
on the Studebaker 20 to 24-horsepower four-cylinder touring car on the market this season. The wheel base is 100 inches and 4½-inch tires are used on the rear wheels and 4-inch on the front. The body design combines straight lines and easy curves, the former being in connection with the front seat and door and window design, with the exception of the scroll effect at the lower rear corner of the side windows, and the curves furnishing the attractive features of the rear, as well as the sides of the enclosed part of the vehicle. The top projects over the dash and is supported by vertical parts that form the frame work of a rising window, extending from the dash to the top in front of the driver. The front seat is not divided, a feature possible by the comparative medium speeds at which limousines travel and one which greatly facilitates the entrance of the operator. The enclosed compartment contains a 44-inch seat, providing seating accommodation for three adults, and in addition carries a dropping seat which backs against the driver's seat, being roomy enough for two passengers. The compartment is finished through in solid Morocco leather, tufted and buttoned. The seat and

back cushions have standard springs. In the ceiling are two small electric lights and at the right a switch for turning them on and off. The general quota of card cases, mirrors, card and paper racks is in evidence, as are silk curtains for all the windows. The lighting of the compartment, as well as the ventilation, calls into use six windows, two on either side and one in each the front and rear. All windows, except that in the front of the compartment, are of

the drop variety and when open are not in the way, leaving the entire window space open for the entrance of air. The door windows are lowered by long door straps, making the raising or lowering of them possible from the seat. The window in the front of the compartment slides to the right or left. As it is divided and both parts slide, only half of it can be opened at once. With all windows open the vehicle is suitable for hot summer use and with all closed it serves for a winter machine.

The bonnet has a large oval opening in the top, which, when removed, exposes the valve and ignition part of the motor, but the entire bonnet can be lifted off after releasing the side fastenings. The curved metal dash protects the oiler, coil, switch, odometer, clock and other devices carried thereon. The entire motor and transmission mechanisms are protected from dust and mud by a long metal apron held in place by metal straps secured to the side pieces of the frame. The only boxes carried on the outside of the body work are an acetylene gas generator on the frame at the right of the footboard and a battery box slightly to the rear of it and carried on metal brackets on the frame.

The car is finished in Brewster green, with black lines and carmine striping. The black is used for iron work and stands out because of the use of the carmine. The doors and back are vertically paneled with long narrow and shallow panels, only thin strips of wood separating them. The ends of the front seat are finished plain.



LIMOUSINE OF THE STUDEBAKER AUTOMOBILE CO.



LINE-UP OF MODEL CARS SOLD AT ARTHUR, ILL.

Pope In Davenport—The Davenport Automobile Co., of Davenport, Ia., will handle the Pope product in that town next year.

To Keep Old Name—The St. Louis Motor Carriage Co. is moving its plant from the Missouri metropolis to Peoria, Ill. It is expected the new plant will be running in 7 weeks. The name of the company will not be changed, it is announced by Mr. French.

Carnegies Quit Horses—Two Pope-Waverly electrics and two family buses, bought from the Boston branch of the Pope Mfg. Co. are in use on Dungeness island, the southern home of the Carnegie family, having ousted the horses formerly used by the millionaire.

Takes Over Nashville Garage—John T. Landis, it is reported, has disposed of his interests in the Southern Automobile Co., of Nashville, Tenn., to E. E. Sweeney, who will retain the agencies for the White, Cadillac and Autocar and add the Stanley, Yale and Franklin. W. F. Anderson will be with Mr. Sweeney. A new building will be erected.

To Build Red Onion—Hartford, Conn., is to have a fine new garage. S. A. Miner, the Knox agent, has closed a contract with the H. C. Judd & Root Co. for the erection of a building two stories high, 100 by 100 feet, directly across from their wool warehouse and known as the Red Onion. Work will be begun at once and the Knox and Pierce cars will be housed in a new home before the coming of spring.

Armac In Chicago—The Armac Co., of St. Paul, Minn., which was recently reincorporated under the laws of Illinois for \$50,000, will remove to its new quarters at 464-468 Carroll avenue, Chicago. In addition to its present line of Armac bicycles, the company will manufacture a side carriage attachment and fore-car attachment, to be used in connection with its motor cycle, and also a light runabout, of 6 horsepower. There will be no change in the officers of the company.

Pittsburg Happenings—The Pittsburg Motor Co., which has absorbed the Shadyside Motor Vehicle Co., has applied for a charter. The capitalization of the company is \$200,000. For the present the company will have its plant on Walnut street, but later on it will build. It will manufacture an electric car, the heaviest being 4,000 pounds, and which will sell at from \$2,000 to \$3,000. The Pittsburg Automobile Co. has also applied for a charter. It will manufacture motor vehicles of all kinds, but will make a specialty of tour-

ing cars, runabouts and other passenger vehicles now in popular demand.

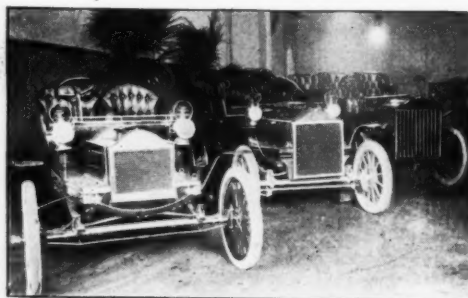
Breaks Into Springfield—The Quincy Automobile Co., of Quincy, Ill., will establish a branch house at Springfield, Ill., it is reported, and will build a garage similar to the one it is running at Quincy.

Has Job at Kokomo—Al G. Sieberling has accepted the position of superintendent of the Haynes-Apperson factory at Kokomo, Ind. He has disposed of his interests at Ottawa, Ill., and reported for duty at the new place last Monday.

In a New Home—The Jaeger & Anderson Locomobile and Columbia agency in Springfield, Mass., has been located in a new home off Main street, the station being one of the finest in Massachusetts with two street entrances, repair shops, sales repository and offices elaborately fitted up.

Like Models In Arthur, Ill.—T. S. Casner, representing the Model Gas Engine Works, of Auburn, Ind., recently struck the town of Arthur, Ill., with 850 inhabitants, having in sight one prospective customer. Before he had finished he had sold nine of the Model cars—all 16-horsepower but two, which were of the 12-horsepower type. Casner is not satisfied, though, and is after the other 841.

Business In the Capital—F. S. Bliven, manager of the Columbia Automobile Co., of Washington, D. C., was a recent visitor at the Franklin factory in Syracuse, having run his model E. Franklin car to this city, accompanied by Fred Hart. The Columbia company now has ten men in its repair shop and claims to be doing an immense business. It gets 75 cents an hour where the other shops in the same city get 50. Mr. Bliven says in spite of the usual opinion that there is lots of money in Washington it is hard to sell a high-priced car there. He recently sold a Franklin to Colonel Bromwell, chief military aide to the president, and expects that after the vacation season the president will be fre-



quently seen in a Franklin car. Mr. Bliven also sold a Franklin to Captain Crosby, of the engineering service, and Lieutenant Hooker, of the marine service.

Change at Sedalia—Dillon & McMillan have disposed of their business at 406 South Osage street, Sedalia, Mo., to F. K. Shaffer and Sam B. Mitchell, McMillan remaining with the new company for the present.

Buy In at Richmond—H. M. Kramer and C. P. Hatfield, of Indianapolis, formerly with the Fisher Automobile Co., have purchased the shop, store and good will of Ado Mansfield at Richmond, Ind. They will conduct a general repair business.

Winton's London Home—Those who have seen the branch of the Winton Motor Car Co. in England declare the American car is comfortably housed at 48 Holborn viaduct, London, E. C. Reports from there state the Winton is living up to its reputation.

Moves Into New Quarters—Announcement is made by the Motor Car Equipment Co., successor to Emil Grossman, of New York, that it has moved from 43 Cortlandt street into its new quarters at 55 Warren street. The company is now compiling its fourth catalogue, a practical reference book containing automobile accessories, parts and supplies of all sorts and descriptions.

Wayne Appointments—The Wayne Automobile Co., a new corporation recently formed in Chicago, with offices at 108 Dearborn street, will represent the Wayne in the Windy city. It is reported to have contracted for a large number of cars, one carload being shipped to Chicago last week. The Schenck Carriage Co. has been appointed a Wayne agent in St. Joseph, Mo.

Delighted With the Winton—Alexander Winton, who is spending a couple of weeks in the vicinity of Boston, is delighted with the work of the motor boat Winton. At Marblehead recently Mr. Winton and Lewis R. Speare drove the boat in a race, winning hands down and showing a speed of 12 miles in 36 minutes 24 seconds. And she was not pushed to her utmost at any time of the race, it is claimed by Mr. Winton.

Plans of Pope People—According to the plans announced by the Pope Motor Car Co. additions will be made to the Toledo plant which will give the company an additional 40,000 square feet of floor space, or a total of 400,000. The working force will be increased to 1,600 men. From 1,200 to 1,400 cars will be turned out in 1906, a specialty being made of machines rating at 20, 30 and 45 horsepower.

Packard Still Enlarging—Taking time by the forelock, the Packard Motor Car Co. is busily engaged in preparing for the winter rush by enlarging its plant. Additions have been made at the northwest corner of the plant and now the workmen are at the southeast corner. The new tower alongside the old one will be topped with a water tank, while inside of it will be additional steam coils and engine for hot air heating apparatus. The plant and upholstery departments have been taken care of by an addition. The truck proposition will be just so much additional work, so the capacity of the two departments has been doubled by the addition of a second story over the whole building, 52 by 200 feet. Inside the shops every conceivable convenience is being installed, such as special benches

and tool racks to facilitate work. Everything will be ready for the winter's campaign in another month at the latest it is said.

Will Make Engines—The Reeves Pulley Co. will establish in addition to its other business, an automobile engine factory at Columbus, Ind. This company is a pioneer in the automobile business.

Johnstown's Garage—The plant of the Johnstown Automobile Co., on Bedford street, Johnstown, Pa., will soon be ready for occupancy. Nathan & Cook, the proprietors, will handle a number of cars, among them the Rambler.

To Handle New Clock—The Electric Contract Co., of New York, has become the general selling agent of the Wilson automobile clock, a new dashboard clock which contains an electric light, which by the pressure of a button, can be illuminated at night.

Going In For Big Cars—The Smith Automobile Co., of Topeka, Kan., has made arrangements to increase the output of its factory to more than double its present capacity. It has ceased to manufacture small cars and will turn its attention entirely to higher-priced machines.

Takes a New Name—The Barriett Electric Mfg. Co., of Columbus, O., has been incorporated with a capital stock of \$25,000. It has taken over the Barriett Mfg. Co., which recently went into bankruptcy. The company manufactures motors and the business will now be reopened and enlarged.

St. Louis' New Venture—The Auto Supply Agency, separate and distinct from the Auto Exchange & Supply Co., has been opened by A. L. Dyke, president of the latter concern, at 3939 Olive street, St. Louis. Its territory is Missouri and southern Illinois, which will be covered by H. B. Lemon. The new company will act as a manufacturers' agency for supplies and automobile parts in general.

Change at Aurora, Ill.—The Independent Pneumatic Tool Co. has succeeded the Aurora Automatic Machinery Co., this being a result of the reorganization of the original company. The capital has been increased from \$250,000 to \$500,000. John P. Hopkins, of Chicago, is the president, and C. E. Erikson continues as treasurer and manager. The manufacture of Thor air-cooled motors and motor cycle parts will be continued, and pneumatic tools and air turbines will also be made. The general offices are in the First National Bank build-



WINTON GARAGE IN LONDON

ing, Chicago, and there is also an office located at 170 Broadway, New York city.

Byfield Takes New Job—Harry M. Byfield has accepted the position as sales manager for the Marion Motor Co., of Indianapolis, and will take charge in a few days.

Palmer Announces a Tire—John F. Palmer, inventor of the bicycle tire bearing his name, announces that next year he will place on the market the Palmer automobile tire which will be manufactured by the Goodrich company.

New Tire In New Jersey—A new tire will be placed on the market by the Electric Mfg. Co., of Rutherford, N. J. It will be electrically treated and, it is said, will not oxidize or crack. Thomas Moore and John H. Gerrie are interested in the concern.

Branches Out at Pittsfield—The Berkshire Automobile Co., of Pittsfield, Mass., is to increase its capital stock from \$15,000 to \$50,000, a greater part of which is already subscribed. The company is to enlarge its plant and manufacture automobiles on a large scale.

New Toledo Concern—The Central Buggy Co., located at 134-38 Ontario street, Toledo, has opened an automobile garage, agency and repair department under the name of the Central Automobile Co. B. E. Bullock is president of the company; W. H. McIntyre, general manager; C. M. Albrecht, secretary; Jack W. Burke, superintendent. The concern has already secured the agency for the Queen and expects to add other lines for next season. Superintendent Burke has been connected with the automobile business in Toledo

for several years past, having been with a number of local automobile concerns recently.

Acme Branch at Asbury—The Acme Motor Co., of Newark, has established a branch at Asbury Park, N. J.

To Make Bodies—The Middletown Automobile Body Co. has been organized to manufacture automobile bodies in wood, iron and aluminum at Middletown, Conn. It will make a specialty of the limousine.

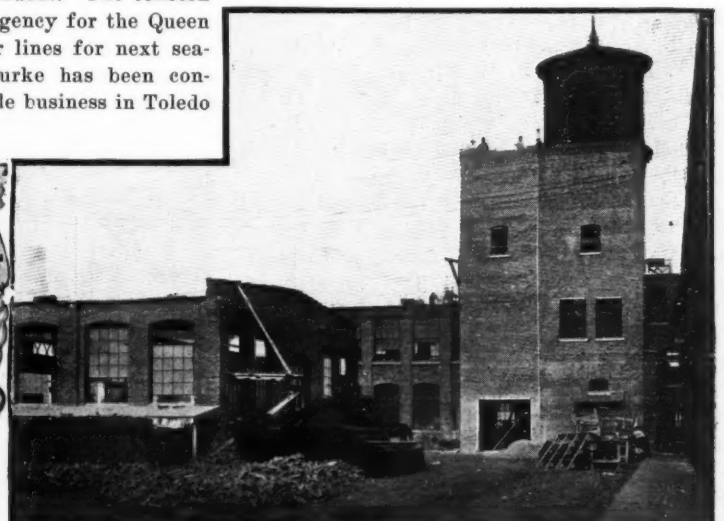
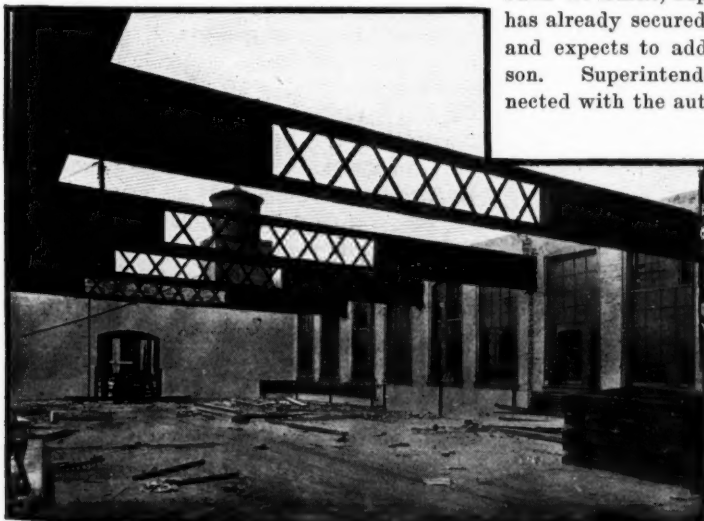
Poole Over From Europe—John L. Poole, the foreign representative of the Olds Motor Works, is spending a few weeks at the factory, posting up for his next season's campaign. Three car loads of standard runabouts were shipped to France on the day of his arrival at the factory.

Doubles Carburetor Capacity—F. H. Wheeler, manufacturer and sales agent for the Schebler carburetor, has doubled the capacity of his assembling department at Indianapolis. He has recently established a branch in England at 38 Fenchurch street, London, which he has stocked with his wares.

Throws Away His Crutches—Charles P. Adams, the Oldsmobile agent in Boston, has so far recovered from the effects of his accident in the mountains as to be able to throw away his crutches. It will be remembered that while returning from the White mountain hill-climb Adams met with an accident, his car going over an embankment and pinning him beneath it.

Toledo After Long—Toledo officials are still after Douglas A. Long, formerly president of the Toledo Auto Express Co. Sheriff Chambers, of Lucas county, arrested Long at Detroit a few weeks ago, when the prisoner demanded an immediate hearing. No one being present to testify against him, Long was released before extradition papers were gotten out. Long is alleged to have embezzled considerable funds belonging to the company before it went up.

Garage for Spalding—A. G. Spalding & Bros., of New York, have arranged to establish, on October 1, a garage separate from their salesroom, in the Spalding building, on West Forty-second street. To this end they have leased a two-story building, 142-146 West Fiftieth street, which will be used for storage and repair purposes. The salesroom will remain at the old stand, whose front will be altered to admit of the entrance of automobiles at this point.



PACKARD FACTORY AT DETROIT AGAIN BEING ENLARGED TO MEET MANUFACTURING REQUIREMENTS

ISAAC B. POTTER, President,
Potter Building, New York.
CHARLES E. DURYEA, First Vice-Pres.,
Reading, Pa.
W. GRANT MURRAY, Second Vice-Pres.,
Adrian, Mich.
S. W. MERRIHEW, Third Vice-Pres.,
154 Nassau St., New York.
FRANK A. EGAN, Secretary,
132 Nassau St., New York.
FREDERICK B. HILL, Treasurer,
32 Binford St., Boston.

OFFICIAL BULLETIN

Is Now Collecting Route Information

covering all automobile routes in the important states and will publish road books for motor car users as fast as complete information is received. The A. M. L. is the only organization engaged in this work, and it invites the co-operation of all persons interested. For full information and membership blanks address American Motor League, Vanderbilt Building, New York City.

The following named members have been appointed delegates to represent the A. M. L. at the international good roads celebration at Port Huron, Mich., on Tuesday, Wednesday and Thursday, August 29, 30 and 31: From Detroit, R. D. Chapin, William E. Metzger, William M. Perrett, John P. Schneider, W. G. Morley, R. A. Parker, V. M. Gunderson, Dr. Jacob H. Burley, P. E. Hawley, John C. Crimins, J. S. Jennings, Jr., S. M. Cohen, L. M. LaDuke, Charles Schmidt, J. D. Maxwell, Ernest E. Sweet, Roger J. Sullivan, W. Kelly, C. E. Christian, Steven E. Hartnell, Richard Roe, C. G. Edgar, D. M. Ferry, Jr., Otto G. Guenther, Charles A. Strelinger, Seth W. Strelinger, J. Culley, J. P. Schneider, S. D. Waldon, B. S. Morley, W. A. Russell, H. J. Hayes, C. H. DeWitt, J. S. Gray, D. E. MacMaster, H. H. Rackham, Joseph E. Lockwood, Fred Paige, Russell Huff, E. H. Broadwell, Francis Barton, W. C. Rands, James L. Lee, Russell T. Kirby, Alanson T. Brush, Frederick S. Evans, H. E. Walton, Lem W. Bowen, F. L. Smith, E. B. Finch, A. T. O'Connor, Charles Schofield, J. H. Brown, George H. Lee, A. B. Cassady, C. J. Moore, W. H. Webber, J. F. Cummings, W. L. Marr, B. F. Everett, C. H. Wills, C. H. Blomstrom, C. R. Wilson, J. S. Rogers, E. S. Huff, James Couzens, William F. V. Neumann, Edwin S. George, David C. Whitney, C. D. Waterman, Dr. W. P. Manton, Joseph J. Miller, C. B. Hodgson, M. A. Young, Herbert P. Carrow, C. F. Kline, John G. Rumney, Angus Smith, W. E. Stokes, S. S. Olds, Jr., W. O. Adams, G. S. Buck, J. J. Brady, G. F. Gilmore, D. D. Huss, W. L. Gleason, E. Roberts, H. B. Joy, J. H. Brady, C. L. Barnes, J. A. Briscoe, J. M. Anguish, E. D. Trowbridge, R. A. Palmer, James Allen, Harold DuCharme, H. M. Allison, E. A. Nelson, Frank Gremel, J. F. Nichols, N. T. Harrington, J. W. Stringer, William F. Cowie, George G. Grant, M. C. McNeil, C. A. DuCharme, Eugene I. Welch, W. C. Leland, B. F. Seidler, Thomas Swan, William Avery Brush, A. H. Roehm, E. A. Skae, H. W. Nichols, T. Hodgson, H. M. Snyder, A. Harvey, Walter Bemb, E. W. Bissell, J. C. Carleton, William Van Sickle, I. Cohen, E. L. Leinbach, C. H. L. Allen, B. B. Bradley, William J. Baird, F. R. Hamburger, Theodore H. Eaton, Edwin S. Anderson, F. M. Delano, H. E. Coffin, William H. Murphy, C. B. Noyes, Charles W. Link, F. E. Wadsworth, H. G. Lyle, L. Vineberg, C. Monnier, W. W. Thorne, Paul Bock, A. D. Gates, William T. Taylor, F. H. Chapin, P. B. Gale, W. M. Kluck, F. S. Stearns, S. H. Stearns, T. B. Essex, Joseph B. Farr, James B. Martink, H. M. Genung, William A. Welch, Joseph N. Smith, C. B. Calder.

John F. Dodge, Gilbert W. Lee, Thomas J. Quinn, George E. Miller, P. D. Dwight, H. H. Love, Edward P. Hammond, J. Elmer Pratt; from Adrian, Charles G. Hart; from Ann Arbor, Lucian S. Moore, Jr., G. D. Stuart; from Bay City, James E. Davidson, C. J. Bonsfield, F. P. Chesbrough; from Benton Harbor, H. E. Belding; from Battle Creek, C. V. Mills, H. F. Stolley; from Cadillac, Frank J. Cobb; from Flint, W. C. Orrell, W. S. Paterson, G. Victor Cotharm, Martin I. Putnam, F. I. Switzer, Arthur D. Cladwell, Ernest T. Pettis, F. F. Hyatt, J. Bortlatt, W. A. Paterson, R. T. Armstrong, Thomas A. Lathrop; from Grand Rapids, Clark Sintz, Clarence U. Clark, Charles W. Matheson, W. S. Daniels, George F. Englerth, N. F. Avery, Charles F. Keene; from Hopkins station, L. C. Walter; from Holland, Arthur F. Stein; from Ionia, H. P. Webber; from Jackson, Charles Van Horne, Herbert S. Reynolds, William M. Thompson, H. H. Christie, W. R. Smith, F. L. Holmes, G. A. Matthews, George W. Luke, W. H. Diehl; from Kalamazoo, W. B. Cannon, A. U. Campbell, Frank B. Fuller, W. E. Russell, Eugene Cook, V. R. Cook; from Lansing, R. E. Olds, H. T. Thomas, M. F. Bates, Charles B. Wilson, Frank A. Hooker, W. H. Nebrough, W. Ropeke, E. F. Peer; from Memphis, Frank S. Church; from Mt. Clemens, Fred J. Hatzenbuhler; from Manistee, Albert U. Mauzy; from Menominee, D. F. Poyer, F. J. Steckel; from Marshall, H. E. Hollon; from Marquette, F. H. W. Bailey; from Orchard Lake, Arthur Pack; from Pontiac, F. S. Welch, A. R. Welch, F. R. Monroe; from Saint Clair, J. C. Westrick; from

Saginaw, J. George Fischer, E. C. Ewen, F. G. Palmerton, Alfred W. Norris; from Traverse City, Dr. Albert H. Holliday, Mrs. Albert H. Holliday, W. C. Hulse; from Ypsilanti, W. H. Sweet; from Toledo, Ohio, R. B. Bramwell, Edward P. Hubbell, Will W. Morrison, E. P. Breckenridge, F. E. Southard, J. J. Cooney, Roy Carter, H. C. Tilotson, J. H. Clauss, C. Kendall, F. S. Davis, W. W. Bennett, H. S. Crawford, William Ford, Patrick Hirsch, J. S. Draper, L. Litchie, C. Z. Kroh, K. G. Johnston, Adolph Dietz, Max Rothfull, Edward A. Kirk, E. H. Close, Andrew M. Stewart, Clarence B. Halsted, N. J. Bick, B. O. Gamble, Aaron Cheshbrough, M. V. Kelley, S. L. Schoenfield, Henry Streetman, J. C. Creswell, R. V. Law, Thomas Bentley, George J. Kiebler, Frank Hake, E. J. Spear, W. W. Bennett, A. P. Narsch, J. G. Swiderman, A. McLennan, M. H. Winters, Charles Knight, A. H. Wilson, Clarence Snyder, E. P. Hubbell, O. C. Reed, J. B. Clinton, George D. Palmer, C. F. Suder, C. V. Brown, J. P. Jackson, A. Neukom, M. D. Teal, George Ross Ford, William N. Taylor, F. A. Zender, W. G. Alexander, R. S. Cummings.

The delegates whose names are here announced all reside within reasonable distance of Port Huron, and can reach that city by a few hours' travel. In view of the supreme importance of the good roads movement in the middle west, and of the strenuous efforts that are being made to improve the roads of Michigan and surrounding states, it is hoped that a full attendance of all the delegates appointed by the A. M. L. will be insured.

A GENERAL INVITATION

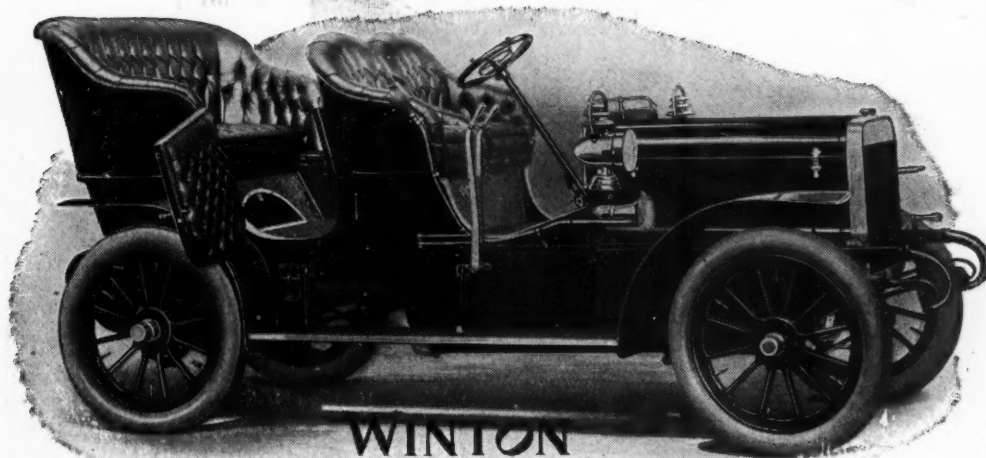
The officers of the A. M. L. are authorized to extend an invitation to all automobilists to attend the Port Huron convention and such invitation is now announced. It may be said, however, that no formal invitation is necessary. This is a movement in behalf of the people, and the larger the attendance the sooner and more substantial will be the results. Let every owner of a motor car turn his face toward Port Huron next week, and make his journey toward the Mecca of good roads enthusiasts.

MORE DANGER SIGNS

The frightful accident resulting in the death of Deputy Police Commissioner Lindsley and Miss Willing last week at Bennington, Vt., is another impressive warning of the need of danger signs. The place where this accident occurred is described by the newspaper reports as one of the worst in the state. A sharp turn thus before the railroad tracks are reached makes it impossible to note the danger from an approaching train, until the tracks are actually beneath the wheels of the motor car.



WINTON



ENTHUSIASTIC OWNERS

When a man buys and uses a Winton, the car satisfies him so thoroughly that he tells his friends.

They in turn buy Wintons, enjoy satisfaction, and tell their friends.

The result is an endless chain of enthusiastic Winton owners, like Messrs. Osborne and Megraw, whose statements we quote.

Writing from Sugar Hill, N. H., Mr. Arthur H. Osborne says:

"I cannot resist the temptation to express my complete satisfaction with my Winton Model B. Since June 25th it has had constant use every day. I drive it myself and consequently know just what has been done to it, and can state without any hesitancy that not one thing has gone wrong since the day it arrived. The car has always carried its full load of five people, but never once has it faltered on the hills, taking the big majority of them on the high gear. As a crowning feat to this perfect record, I drove the car from Spring Lake, N. J., to the White Mountains, over the most frightful roads (as it rained all the way) without ever getting out of the car except for meals and bed. I have now run the car 2500 miles, and defy any car of any other make, either here or in Europe, to run better than mine has. It is an impossibility."

Mr. John Megraw, of Philadelphia, writes:

"It has been about eight months since I purchased my Winton and I never had one breakdown or one complaint to make against the car. It is really more than I expected, and I can readily endorse the Winton to anyone as the best car on the market for both strength and durability."

Let us send you a copy of the September Auto Era, detailing the remarkable hill climbing performances accomplished by Mr. G. W. Coffin, of Denver, and Mr. Ed. Heath, of Chicago.

Five Winton Models—16-20 to 40-50 h. p.—\$1,800 to \$4,500.

Catalog No. 2 describes all models fully.

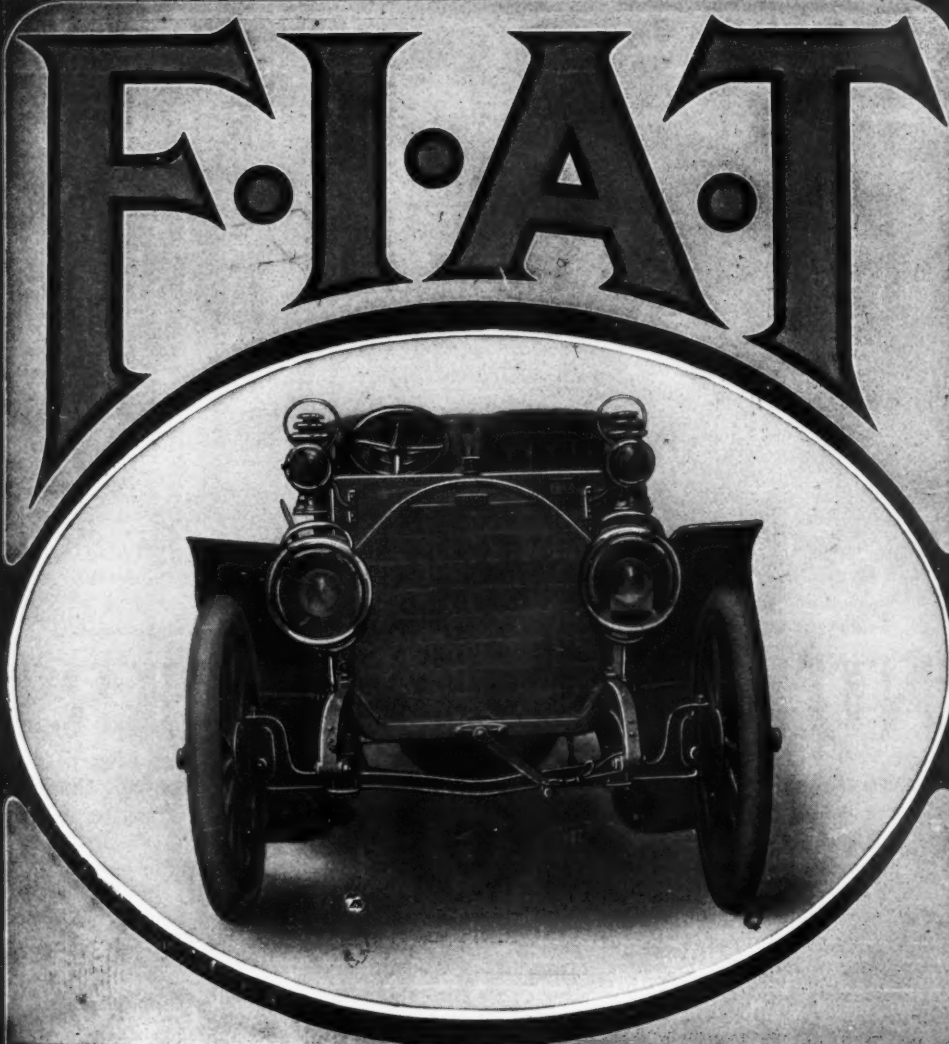
THE WINTON MOTOR CARRIAGE CO.
CLEVELAND, OHIO, U. S. A.

Member A. L. A. M.

Branch Houses in Chicago, New York, Philadelphia, Boston and London

Sales Agencies Everywhere

"The Aristocrat of Auto Cars"



Holder of Four World Records

- 1 Mile Track Record (Gasoline)**
52 1-5 seconds, made by Chevrolet in Major Miller's "FIAT" at Morris Park.
- 2 World's Middle Weight Record**
55 4-5 seconds, made by E. Parker, at Morris Park, July 4th.
- 3 World's Long Distance Road Record**
260 miles, made by Lancia at Brescia. Average speed 72 1-5 miles per hour.
- 4 Motor Boat Race Across the Mediterranean (200 miles)**
Won by "FIAT X" in 12 hours, beat nearest competitor 4 hours, 50 seconds.

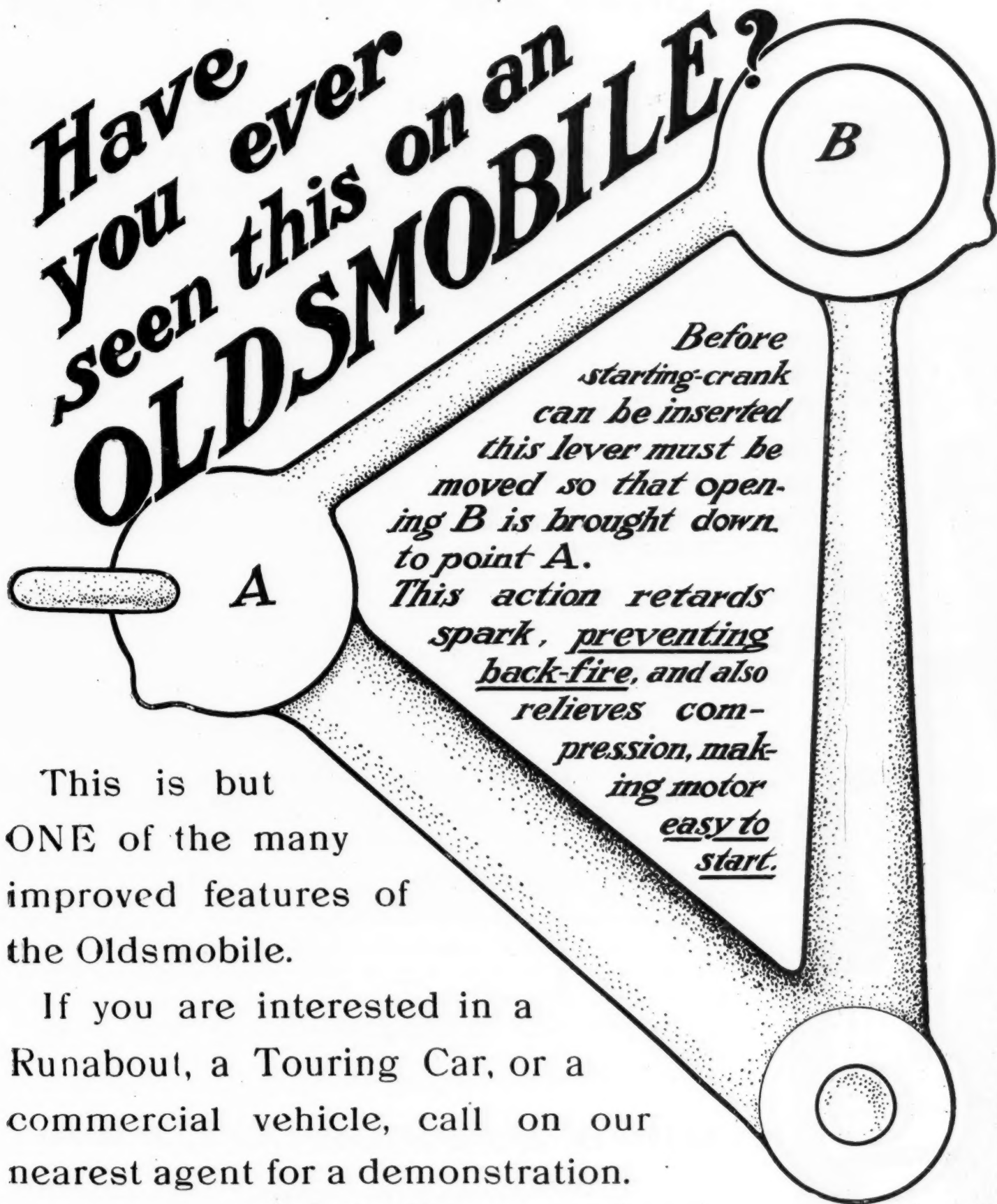
HOLLANDER & TANGEMAN
3 and 5 West 45th St., N. Y.

SOLE AMERICAN AGENTS

Licensed Importers Under Selden Patent

"The Aristocrat of Auto Cars"

Have
you
seen this on an
OLDSMOBILE?



*Before
starting-crank
can be inserted
this lever must be
moved so that open-
ing B is brought down
to point A.*

*This action retards
spark, preventing
back-fire, and also
relieves com-
pression, mak-
ing motor
easy to
start.*

This is but
ONE of the many
improved features of
the Oldsmobile.

If you are interested in a
Runabout, a Touring Car, or a
commercial vehicle, call on our
nearest agent for a demonstration.

Write for Catalog 52.

OLDS MOTOR WORKS
Lansing, Mich., U. S. A.

Words from those who "pay the freight"

Extracts from July letters about GOODRICH TIRES

"I have driven your tires (Bailey Tread) 15,000 miles and never even pumped them up. Much of this driving over streets in all stages of completion."

CHAS. W. ROSS,
Street Commissioner, Boston, Mass.

"I recommend the Goodrich Tire after having given it a practical test with other tires on the same touring car. The Goodrich is by far in the best condition."

PACIFIC STATES AUTOMOBILE CO.,
San Francisco.

"Have been using Goodrich Tires for the past four or five years and the replacements are much less than with several other makes."

OUTING AUTOMOBILE CO.,
Brooklyn, N. Y.

"Forty machines sold since last October and not a replacement on account of defective tires. We sell no other make than Goodrich."

THE VON HAMM-YOUNG CO.,
Honolulu Territory.

"We have had Goodrich casings run as high as 24,000 miles. We believe your construction is right."

WATERMAN BROS.,
Fresno, Cal.

"I have used all kinds of tires during the past five years, but have never heard of such a record as this—7,000 miles travel over mountain roads and not even a puncture to the rear tires."

W. W. PRICE,
Colorado Springs, Colo.

THE BAILEY "WON'T SLIP" TIRE. Regular Goodrich construction, but provided with the Bailey "Won't Slip" Tread. Prevents slipping, slewing or skidding.

THE B. F. GOODRICH COMPANY,

New York, 66-68 Reade St.,
Broadway.
Philadelphia, 909 Arch St.
Buffalo, 731 Main St.
Cleveland, 420 Superior St.
Boston, 161 Columbus Ave.

AKRON, OHIO

Detroit, 80 E. Congress St.
Chicago, 141 Lake St.
San Francisco, 392 Mission St.
Denver, 1444 Curtis St.
London, E. C., 7 Snow Hill.



Rims branded in the channel with this copyright mark have been inspected and pronounced perfect. We guarantee our tires only on rims so branded.



When we started out to build a four-cylinder car we decided to annex some new kinds of records, kinds that have so far been overlooked,—and among those we got after was ACCESSIBILITY. Note the results:

We can take out any BEARING in the Stevens-Duryea engine in half an hour's work. No other car in the world can match this.

We can take the whole "POWER PLANT"—engine, clutch and transmission—out of our car in an hour without taking off the body, the dash or the steering column. No other car in the world can do this.

We can take out the CAM SHAFT without taking off the cams, without removing the valve tappets, the flywheel or any piping or wiring.

We can take out any PISTON in half an hour's time without taking off the cylinder.

We can take out any VALVE in two minutes without undoing any bolts, nuts, pipes or gaskets.

We can take out any TRANSMISSION GEAR in half an hour.

We can take out the CLUTCH, reface it and put it back in the car in four hours, without removing the engine, the transmission, the dash or the flywheel.

Read this again. Let it soak in. Look over some of the Repair Bills You Have Paid. Figure out just what such accessibility is worth in actual cash per year to you—and then put yourself in possession of one of our booklets and find out how we do it.

J. STEVENS ARMS & TOOL CO.

Makers of the "Twentieth Century Hustler"

705 Main St., Chicopee Falls, Mass.

Member Association Licensed Automobile Manufacturers.

WHEN YOU PAY MORE

Model 4B



\$1500

An ideal touring car at an ideal price. 18-20 h. p. (4-cylinder vertical motor), \$1,500. One h. p., for every 85 pounds of weight. No radical features or untried devices for which you will have to pay for the experiments.

It embodies the best features of the most famous cars, but it is different in at least one essential—price. A 4-cylinder touring car at \$1,500 seems unusual, you say? It is more than unusual—it's wonderful.

for a touring car or run-about than our price, you are paying for features which you get without extra charge in the

MITCHELL

It is not only "the car you ought to have at the price you ought to pay"

Model 2B



\$750

2 cylinder, 9 h. p., vertical motor, mounted in front. This Runabout is as carefully designed, as up-to-date and smart in appearance as any three or four thousand dollar car ever built. It has ample power for all conditions of road and its hill climbing abilities are unsurpassed. It is all that any man may want in a Runabout.

It is **more**. It is absolutely the best car—the most perfectly constructed—the most simple to operate and the most stylish car in appearance on the American market. You cannot **possibly** do better than to buy a **Mitchell**.

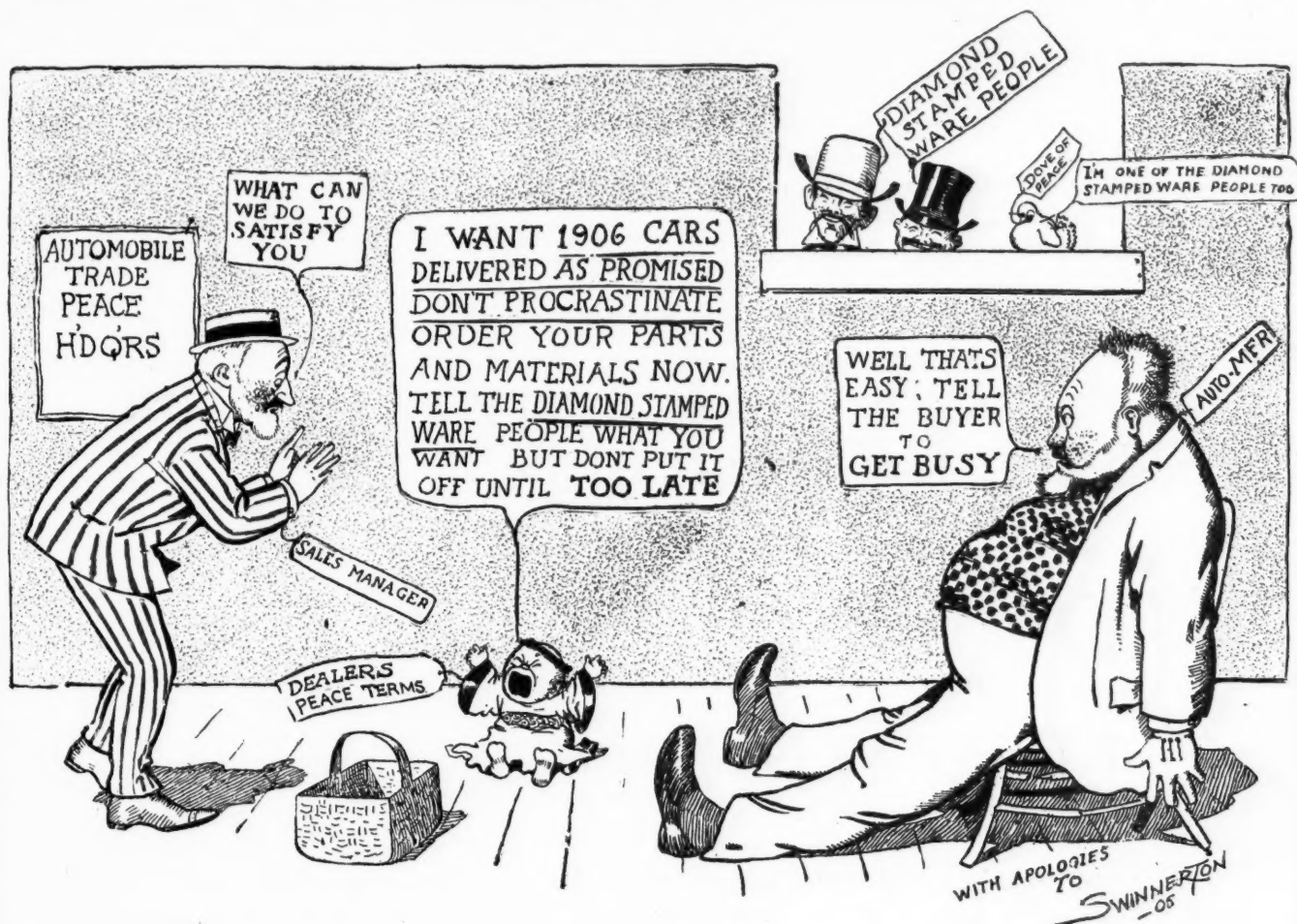
WRITE FOR CATALOGUE

MITCHELL
Motor Car Co.
RACINE, WISCONSIN

Member American Motor Car
Manufacturers' Association,
Chicago

PEACE TERMS

between automobile manufacturers and automobile dealers for 1906.



¶ Many dealers lost good sales this year because of late deliveries of cars by the manufacturers.

¶ The invariable excuse of the manufacturer was "delayed arrival of parts and materials."

¶ The answer of the parts makers and material concerns was "manufacturers put off placing their 1905 orders until unnecessarily late."

¶ The Moral—Don't let it happen again for 1906, especially when we are so well able and anxious to serve you.

DIAMOND STAMPED WARE CO.

RADIATORS
(Horizontal or Vertical Tubes.)

DETROIT, MICHIGAN

HOODS
(Any style or design.)



Universal Rim

With Flange Rings Arranged
for Goodyear Detachable Tire or
Goodyear Endless Solid Tire.

DONE IN A MINUTE

The only automobile-tire fastening without bother or hard work.



Universal Rim

With Removable Flange Rings
arranged for any clincher tire.

Goodyear

Detachable Auto Tire and New Universal Rim

The picture above illustrates how easy it is for you to remove or apply Goodyear Detachable Auto Tire to New Goodyear Universal Rim in less than a minute. No tools—only the hands.

This auto combination is insurance against tire trouble. Easiest riding tire produced, extreme durability, punctures **permanently** repaired quick and easy as changing a spark plug.

And no extra cost.

Universal Rim fits any wheel with wooden felloe carrying standard clincher tires, and takes all Goodyear auto tires or **any** standard clincher tire on the market. Change from one tire to another made instantly without tools.

Write for "Good News Book," a practical handbook for all tire-troubled people. Mailed free to users or dealers.

Goodyear Tire & Rubber Co.
Wallace Street, Akron, Ohio.

New York: 253 W. 47th St.
Cincinnati: 242 E. 5th St.
Boston: 6-8 Merrimac St.
Chicago: 110 Lake St.
Minneapolis: 116 S. 6th St.

Detroit: 246 Jefferson Ave.
St. Louis: 1219 N. Broadway.
Los Angeles: 932 S. Main St.
Cleveland: 69 Frankfort St.
Buffalo: 670 Main St.

Denver: 220 Sixteenth St.
Syracuse: 416 S. Salina St.
Omaha: 2044 Farnum St.
Philadelphia: 1521 Spring St.
Kansas City: 1612 Grand Ave.

FRANKLIN

No trouble last summer in keeping the *Franklin* air-cooled motor cool.

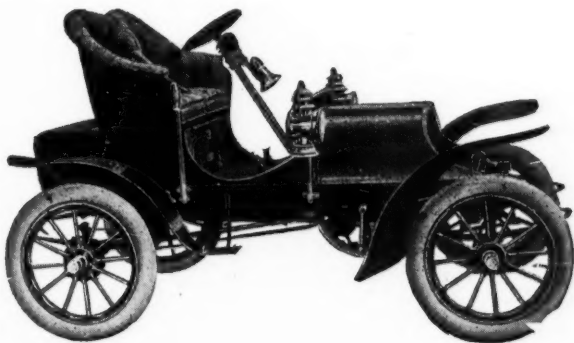
This year's *Franklin* keeps cooler yet, and develops 20 per cent more power from the same sized engine.

The *Franklin* was the most effective and economical car last year. This year it is still more effective and economical.

These are some of the things that make it more effective:

The *Franklin* Auxiliary Exhaust which lets the hot high-pressure gases out before the main exhaust valve opens, thus reducing back pressure and maintaining the combustion chamber at the temperature of maximum efficiency.

The inside of the cylinder, the piston and the piston-head are polished and ground and the combustion chamber is machined, which tends to reflect heat-waves and decreases the amount of heat-surface in the engine.



Send for our explicit 1905 Catalogue.
It is sure to interest you.

H. H. FRANKLIN MFG. CO., Syracuse, N. Y.

Member Association Licensed Automobile Manufacturers

Motor Age Circulation

¶ Here is a little information regarding our July circulation. We have condensed this, showing only the lump receipt for each week. We have the receipt for each lot as it went to the Post Office and it can be seen at our office at any time by interested parties.

¶ The following receipts show a total circulation in July of **47,020** copies.

THIS RECEIPT MUST BE GIVEN THE PUBLISHER OR NEWS AGENT.

No. **309 A**
Post Office, **Chicago**, State, **Ill.**
Date, **July 13**, 190**5**
Name of Publication, **Motor Age**
Or News Agent,
Weight of Sample Copies (Sample Copies are always subject to postage),
Weight of Copies to Subscribers, Subject to Postage,
Total weight of Copies subject to postage at One Cent a pound or fraction thereof,
Weight of Copies to subscribers in county of publication, Free of Postage,
(No copies whatever, except one copy to each actual subscriber residing in the county where the publication is printed in whole or in part, and published, may be sent free of postage.)
Received full prepayment of postage.
THIS RECEIPT MUST BE ISSUED FOR EVERY MAILING, WHETHER THE MATTER BE SUBJECT TO POSTAGE OR FREE.
By **S. E. Bayne**, P. M.
A. J. Brown

POUNDS MAILED:
156
7687
\$ 78.43

THIS RECEIPT MUST BE GIVEN THE PUBLISHER OR NEWS AGENT.

No. **213 A**
Post Office, **Chicago**, State, **Ill.**
Date, **July 20**, 190**5**
Name of Publication, **Motor Age**
Or News Agent,
Weight of Sample Copies (Sample Copies are always subject to postage),
Weight of Copies to Subscribers, Subject to Postage,
Total weight of Copies subject to postage at One Cent a pound or fraction thereof,
Weight of Copies to subscribers in county of publication, Free of Postage,
(No copies whatever, except one copy to each actual subscriber residing in the county where the publication is printed in whole or in part, and published, may be sent free of postage.)
Received full prepayment of postage.
THIS RECEIPT MUST BE ISSUED FOR EVERY MAILING, WHETHER THE MATTER BE SUBJECT TO POSTAGE OR FREE.
By **S. E. Bayne**, P. M.
A. J. Brown

POUNDS MAILED:
7635
\$ 76.35

July 6th issue

Number of pounds, second-class..... 7,843
Weight of each paper, 14 oz.
7,843 pounds divided by 14 oz. = 8,963
To news companies, non-returnable..... 569
Foreign, under stamps..... 86
Distributed by special delivery in New York, St. Paul and Chicago..... 2,100
Retained for office use..... 350
Total..... 12,068

July 13th issue

Number of pounds, second-class..... 7,635
Weight of each paper, 12 oz.
7,635 pounds divided by 12 oz. = 10,180
To news companies, non-returnable..... 604
Foreign, under stamps..... 90
Retained for office use..... 350
Total..... 11,224

THIS RECEIPT MUST BE GIVEN THE PUBLISHER OR NEWS AGENT.

No. **89 A**
Post Office, **Chicago**, State, **Ill.**
Date, **July 27**, 190**5**
Name of Publication, **Motor Age**
Or News Agent,
Weight of Sample Copies (Sample Copies are always subject to postage),
Weight of Copies to Subscribers, Subject to Postage,
Total weight of Copies subject to postage at One Cent a pound or fraction thereof,
Weight of Copies to subscribers in county of publication, Free of Postage,
(No copies whatever, except one copy to each actual subscriber residing in the county where the publication is printed in whole or in part, and published, may be sent free of postage.)
Received full prepayment of postage.
THIS RECEIPT MUST BE ISSUED FOR EVERY MAILING, WHETHER THE MATTER BE SUBJECT TO POSTAGE OR FREE.
By **S. E. Bayne**, P. M.
A. J. Brown

POUNDS MAILED:
1884
5044
\$ 69.28

THIS RECEIPT MUST BE GIVEN THE PUBLISHER OR NEWS AGENT.

No. **25 A**
Post Office, **Chicago**, State, **Ill.**
Date, **Aug 3**, 190**5**
Name of Publication, **Motor Age**
Or News Agent,
Weight of Sample Copies (Sample Copies are always subject to postage),
Weight of Copies to Subscribers, Subject to Postage,
Total weight of Copies subject to postage at One Cent a pound or fraction thereof,
Weight of Copies to subscribers in county of publication, Free of Postage,
(No copies whatever, except one copy to each actual subscriber residing in the county where the publication is printed in whole or in part, and published, may be sent free of postage.)
Received full prepayment of postage.
THIS RECEIPT MUST BE ISSUED FOR EVERY MAILING, WHETHER THE MATTER BE SUBJECT TO POSTAGE OR FREE.
By **S. E. Bayne**, P. M.
A. J. Brown

POUNDS MAILED:
340
7443
\$ 71.93

July 20th issue

Number of pounds, second-class..... 6,928
Weight of each paper, 11 oz.
6,928 pounds divided by 11 oz. = 10,077
To news companies, non-returnable..... 613
Foreign, under stamps..... 89
Retained for office use..... 350
Total..... 11,129

July 27th issue

Number of pounds, second-class..... 7,793
Weight of each paper, 11 oz.
7,793 pounds divided by 11 oz. = 11,335
To news companies, non-returnable..... 625
Foreign, under stamps..... 89
Retained for office use..... 350
Sold to Four-Wheel Drive Wagon Co. for mailing as 3d class..... 200
Total..... 12,599

Total circulation for July **47,020**
Average per week **11,755**

Motor Age Circulation

As promised last week, we herewith produce proof of our circulation of August 10 issue, and to prove that the exhibit is not exceptional, on the opposite page—in curtailed form—a statement covering the entire month of July. We have further interesting evidence of the wide and thorough circulation in preparation. Watch for it.



The above cut represents Post Office Receipts for 8,029 pounds net, equaling over 4 tons of issue of August 10, 1905.

Each paper, including wrapper, weighed 11½ ounces.

8,029 pounds divided by 11.50 oz=	11,170 papers.
We also furnished, non-returnable , to Western News Co. and news stands direct.....	662 "
Mailed under stamps to foreign addresses.....	87 "
Retained for office sales and distribution.....	350 "
Total for week of August 10.....	12,269 "

On page 42 of our issue of August 17 we reproduced receipts which, taken with our other circulation, showed a circulation for the issue of August 3 of 13,159 copies which added to above gives an average for the two weeks of 12,714.

MOTOR AGE,

N. H. VanSicklen

Manager.

RELIABILITY



Greatest Endurance Test Ever Run in Europe



In the Hercomer Touring Contest August 10-13, from Munich to Munich going through Ulm, Baden Baden, Nurnberg, Reglesburg—a distance of nearly 700 miles—out of 101 entries, representing France, Germany, England, Austria, Belgium and Switzerland,

THE FIRST 10 CARS of the 12 That Finished

in record time were fitted with ***“Continental Tires.”***

1st, Ladenburg, Mercedes
2nd, Weingand
3rd, Poege, Mercedes
4th, Opel, Opel

It took $3\frac{1}{2}$ days to finish the 700 miles and $3\frac{1}{2}$ days of riding at this rate of speed without tire troubles is a more meritorious performance than a few hours of racing, where it is necessary to change the tires on all the cars very frequently and where the skill of the driver and the endurance of the machine is the REAL TEST.

“Continental Tires” always prove their superiority over all other makes of tires in legitimate road performances.

The Continental Caoutchouc Co.

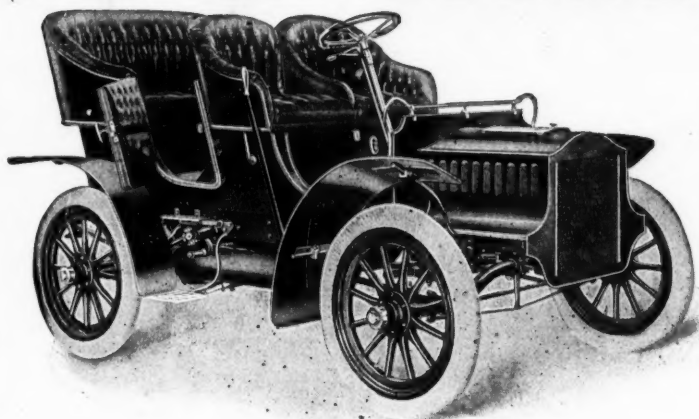
EMIL GROSSMAN, Gen'l Mgr., 43 Warren Street, New York
Factory, Hanover, Germany

First Class Certificate

FOR THE

Cadillac

in the Glidden Tour



A regular ten horsepower Cadillac, Model F, finished with honors in the great Glidden tour and received the first class certificate.

The car was loaded with four passengers and was driven by its owner, and not by a factory expert.

In every contest to test endurance and staying qualities the Cadillac is either at the top of the list or very near it. A car made of the best material money can buy and constructed in an ideal plant by the most skillful workmen good pay can secure—that is the Cadillac. No part is slighted—nothing cheapened. The output of our factory is large because the factory is large and not because quality gives way to quantity.

No matter how severe the test or what the requirements, the single cylinder Cadillac is always there with the goods, and that too without the aid of paid experts. The work done in this tour by Mr. Kenwood with his single cylinder Cadillac was a surprise to many of the owners and drivers of so called high powered cars. For all around use over American roads there is no automobile made that will give as much mileage at so little expense as a single cylinder Cadillac.

Cadillac Automobile Company, Detroit, Michigan

Member Association Licensed Automobile Manufacturers.

QUEEN MODEL F

\$800.00

RUNABOUT

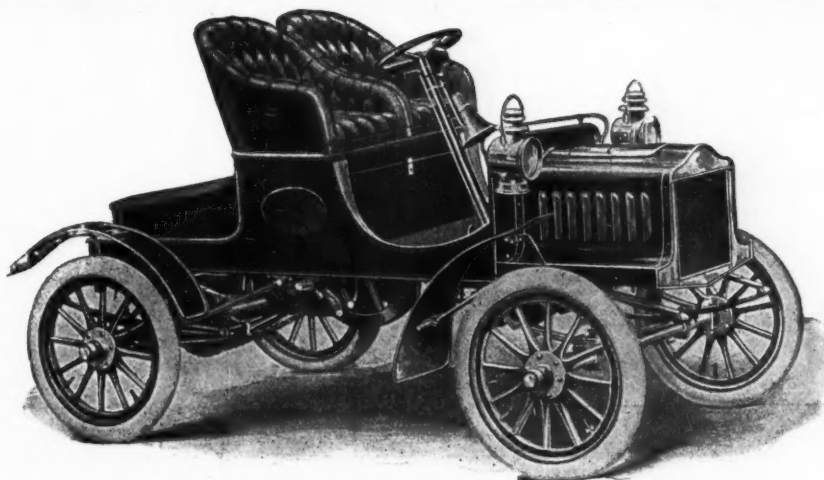
14 Horse Power

76-inch Wheel Base

28-inch Wheels

3-inch Tires

VERY LIGHT IN WEIGHT



WRITE FOR CATALOGUE SHOWING 18 H. P. DOUBLE
DOOR SIDE ENTRANCE TOURING CAR FOR \$1,000.00

THE C. H. BLOMSTROM MOTOR CO.

1284 River St., DETROIT, MICH.

NEW YORK AGENT: C. A. Duerr & Co., Cor. 58th St. and Broadway.
PHILADELPHIA AGENT: The Motor Shop, 317-319 North Broad St.
ALLEGHENY, PA.: The Allegheny Auto Co., 711 Jackson St.

CHICAGO AGENT: Harry Branstetter, 1466 Michigan Ave.
BOSTON AGENT: F. E. Wing Motor Car Co., 66 Stanhope St.
DENVER AGENT: Mathewson Automobile Co., 1420-1422 Court Pl.

MICHELIN

AUTOMOBILISTS PAY MORE FOR MICHELIN
TIRES BECAUSE THEY ARE THE CHEAPEST.

QUEER, ISN'T IT?

ALL BEST CARS ARE EQUIPPED WITH
MICHELIN TIRES.

MICHELIN TIRE AMERICAN AGENCY, Inc.

6 West 29th Street, New York

E. D. WINANS, General Manager

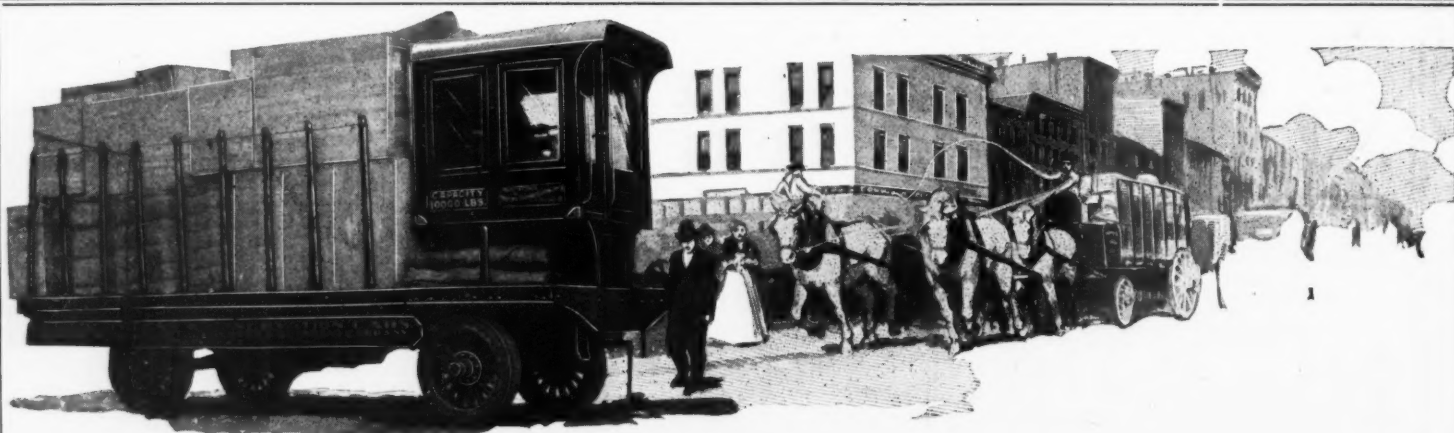
Telephone, 4657 Madison

BRANCHES

CHICAGO, 1461 Michigan Boulevard.
BOSTON, 751 Boylston Street.
PHILADELPHIA, 322 No. Broad Street.
WASHINGTON, 1330 New York Ave., N. W.
SAN FRANCISCO, 304 McAllister Street.
ROCHESTER, 21-29 Plymouth Ave.

BALTIMORE, 102 East Eager Street.
MINNEAPOLIS, Winston and Walker.
ST. LOUIS, 3935 Olive Street.
INDIANAPOLIS, Indiana Automobile Co.
ST. PAUL, C. P. Joy Auto Co.
CINCINNATI, 904 Broadway.

BUFFALO, 369 Pearl St.
PITTSBURG, 5903 Centre Ave.
UTICA, 12-18 Lafayette St.
POUGHKEEPSIE, 14-20 Catherine St.
ALBANY, 97-101 Central Ave.
NEWARK, 286 Halsey St.
ASBURY PARK, Main St. and Sewall Ave.



Five-Ton Truck at Work

Result of Demonstration—5-ton Truck In Service—Chicago Telephone Co.

MAY, 1904

TIME	Mileage	Loads	Pounds	Average Load	Daily Mileage
6 days.....	224½	15	178,088	11,872 pounds	37.4
6 days.....	226	12	132,544	11,045 pounds	37.6

Actual weekly saving over use of horses, **\$42.68**. This is not an "estimate," but is taken from Telephone Company's report. We have their order for 7-ton truck.

CHICAGO COMMERCIAL AUTO. MFG. CO.

2, 3, 5 and 7-ton Trucks

HARVEY, ILL.

12 to 50 Passenger Cars

Classification Distinctive... WHY?

The Lightest, the Strongest, Most Durable, Most Efficient, Best Finished. Attractive in Rich Finish and Design, Simply Manipulated.



Absolutely Safe, Perfectly Clean, Best to Ride, Most Economical to Keep. Always Satisfactory. A Carriage Any Lady Can Drive.

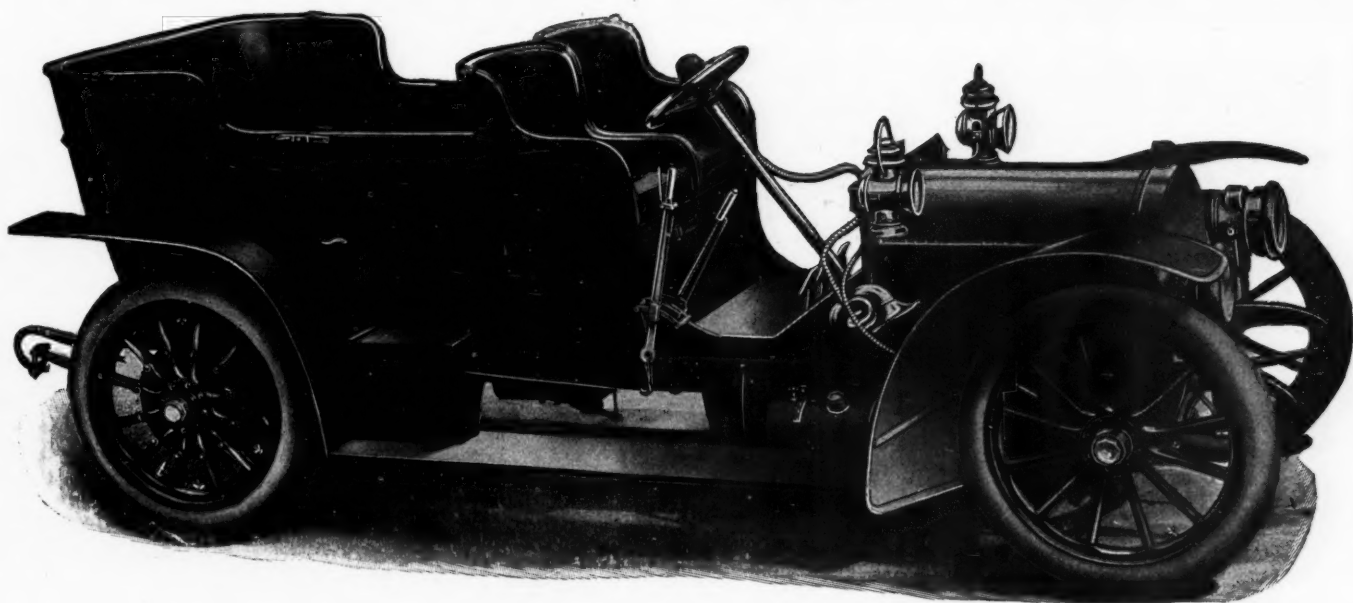
THE BAKER ELECTRIC

SEND FOR OUR BK CATALOG

THE BAKER MOTOR VEHICLE CO. Cleveland, Ohio

Chicago Agents: PARDEE-ULLMANN CO., 1218-20 Michigan Avenue, Chicago

"WE PAY THE DUTY"



Paris Price, \$7,500 New York Price, \$7,500

The 40-45 American Mercedes—1 H. P. to every 50 pounds. Built from same plans and same materials as are used by our parent Company, The Daimler Motoren Gesellschaft of Unterlurkheim, Germany.

Send for booklet giving full information.

Daimler Manufacturing Co.

973 Steinway Avenue

LONG ISLAND CITY, NEW YORK

New York City Garage, 10 West 60th Street

G & J TIRES

IN THE

Mt. Washington Climb

Stanley Steamer Makes the Record For Light and Middle Weight Car

THE STANLEY MOTOR CARRIAGE COMPANY.

Newton, Mass., U. S. A., June 25, 1905.

G & J Tire Co.,
Boston, Mass.

Gentlemen:—

I have just returned from our Mt. Washington trip and have no doubt you will be interested to know what success we had with the G & J tires with which our two cars were equipped. Both cars ran over the road from Newton and back with two passengers and baggage, and each made three trips up Mt. Washington, one trial and twice in races, and we never had to pump up the tires on either machine after leaving the factory, and they gave the most perfect satisfaction.

Both machines made fast time, one 22 min. 17% sec., and the other 30 min. 19% sec., consequently the tires were subjected to severe strain and were capable of standing it.

Yours truly, STANLEY MOTOR CARRIAGE CO.
Per F. E. Stanley.

Cameron Makes the Best Record for Gasoline Cars of the Runabout Class

THE JAMES BROWN MACHINERY COMPANY.

Pawtucket, R. I., July 27, 1905.

G & J Tire Co.,
Boston, Mass.

Gentlemen:—

On the 8th of November, 1904, we placed a set of your tires on the Cameron racer for Providence races. We have participated in all the races and hill climbs in New England since that time. We drove from Pawtucket to Mt. Washington and made four trips to the top of Mt. Washington. The driving tires have not been touched since they were put on the car. We have not had the slightest delay or accident at any time on account of tires. They seem to hold the air better than any tire we have ever used.

Yours truly,
THE JAMES BROWN MACHINE CO.
F. F. Cameron.

G & J TIRE CO.

INDIANAPOLIS

Boston

Chicago

Buffalo

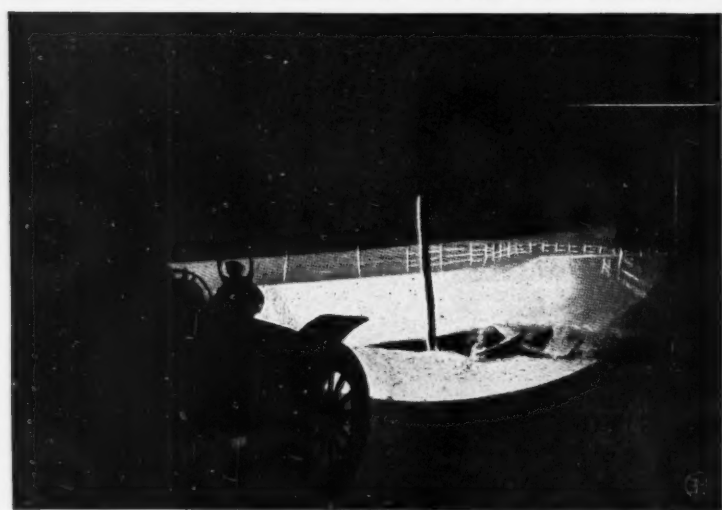
Denver

Cleveland

San Francisco

Detroit

NO DANGER AHEAD



THEY ABSOLUTELY DO MAKE ANY GOOD LAMP THROW THIS KIND OF A LIGHT.

FOR - USERS - OF - THE

PREST-O-LITE

ACETYLENE

GAS - TANK

MORE THAN 5000
OF THEM SOLD
THIS SEASON

They make
night driving
SAFE.

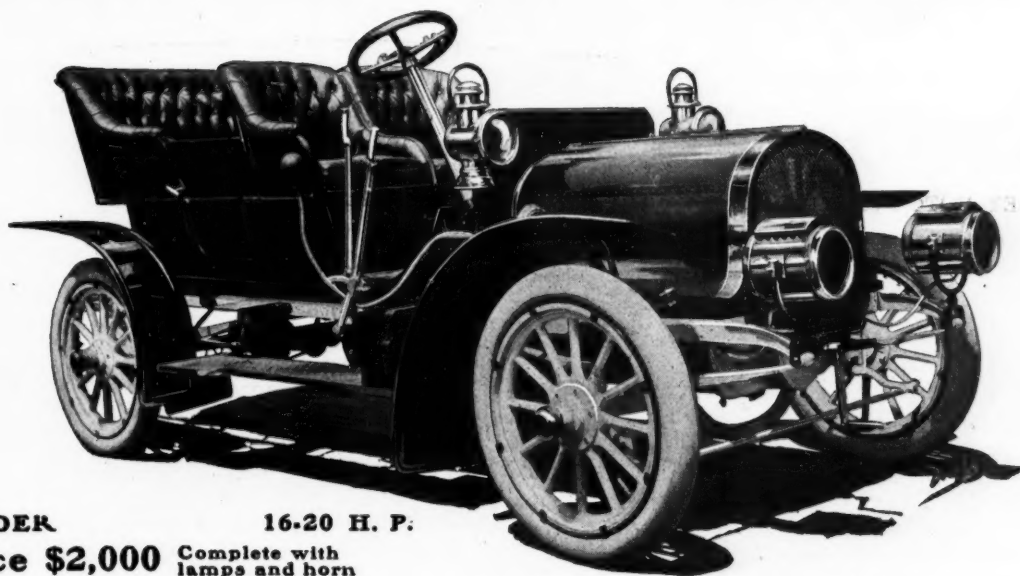


Fifty feet of gas through a regular Gas Lamp Generator costs you all sorts of trouble, soiled hands and clothes, endless time, inconvenience and considerable money. Fifty feet of gas from the Prest-O-Lite Gas Tank costs you \$2.00, without the trouble, etc.

PREST-O-LITE GAS TANK CO.

330 North Illinois Street, Indianapolis

CORBIN CARS



4 CYLINDER

16-20 H. P.

Price \$2,000 Complete with
lamps and horn

Prompt deliveries. Reliable, up-to-date and perfect air-cooled motor. Ideal light touring car. Built under the direction and control of the Allied Corbin interests, which is the best possible guarantee for workmanship and material.

The Corbin Motor Vehicle Corporation NEW BRITAIN
CONNECTICUT

NEW YORK, 4 West 38th Street

BOSTON, 163 Columbus Avenue

PHILADELPHIA, 629 North Broad Street

PENNSYLVANIA CLINCHER

The value of a Tire is measured not by dollars,
but by the Odometer.

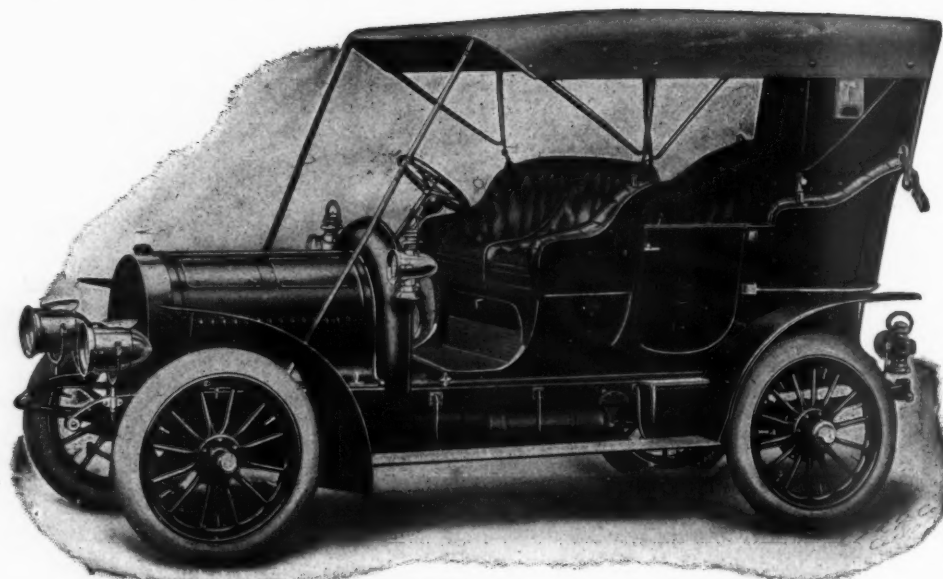
The Tire which travels furthest without repairs is
the most valuable to YOU.

The Tire which carries your Car softly over the
road is the most valuable to your MOTOR.

PENNSYLVANIA RUBBER CO.

JEANNETTE, PA.

First Among the Best



A ROYAL TOURIST---Those who know it best, know it is the BEST

Write for Nearest Agency

THE ROYAL MOTOR CAR CO. Department 2
CLEVELAND, OHIO

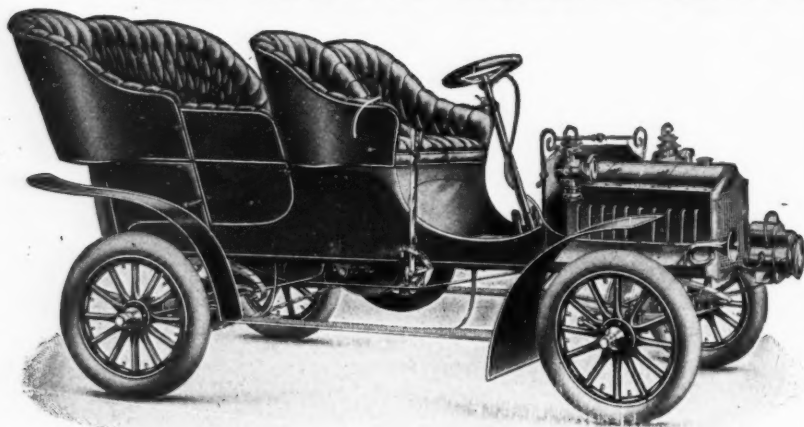
The Powerful DOLSON

The Strongest Car in
America at the Price

\$1350

COMPLETELY EQUIPPED
AND READY FOR
EXTENDED TOURING

ALL KINDS OF TALKING POINTS AND REAL MERIT



The DOLSON is the strongest, most powerful car in America for its price. It is a hill climber par excellence, has plenty of speed, easy of control, beautifully designed, handsomely finished and upholstered. Wheel base, 90 inches. Wheels, 30 inches. Tires, 3½ inches front, 4 inches rear. Large, roomy tonneau, seating five persons comfortably.

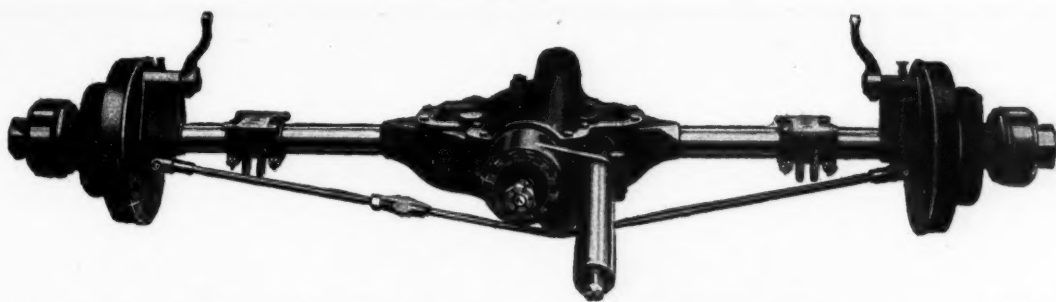
In design, material, workmanship and specifications, the **DOLSON** compares favorably with high-priced cars, and it is listed at a price that enables agents to sell quickly and duplicate orders. We can and will make deliveries as specified.

Don't wait too long. Get in line now.
Write for further particulars.

1905 MODEL C. Price, \$1350.00

Including two oil side lamps, acetylene head light, French horn, mats, full tool equipment, ready for extended touring.

JOHN L. DOLSON & SONS, : : Charlotte, Michigan.



Garford Touring Car Parts

In designing these parts our engineers have not been hampered by thoughts of patents to be nursed or stale patterns to be perpetuated. The freedom thus afforded shows to advantage in the boldness of design, the workmanship, and the selection of materials. Garford parts comprise:

Rear Axle, Independent Shaft Drive, Ball or Plain Bearing, Weight Carried Entirely on Axle Tube; Front Axle, I-Beam Section Nickel Steel Bed, Ball or Plain Bearing; Change Gear, Steering Gear, Clutch, Distance Rod and Bracket, Propeller Shaft, Levers for Emergency-Brake and Change-Gear.

Parts of one size are suitable for cars weighing up to 2400 lbs. and of 30 h. p. Parts of the other size are suitable for cars weighing up to 2800 lbs. and of 50 h. p.

Write for Circular No. 12

THE GARFORD COMPANY ... Elyria, Ohio

SALES MANAGER. HAYDEN EAMES, *Cleveland, Ohio*

Colorado At Her Best

In late summer Colorado is at her very best. The green of the verdure is slowly turning to crimson and gold. Afar looms a majestic snow-capped peak, enshrouded in autumnal haze—before you stretches mile on mile of rolling plain. The clear, cool air drifts down the canons, freighted with scents of pine and fir trees.

Colorado is truly a good place to visit in Autumn.

Rock Island trains to Colorado carry standard and tourist sleepers, dining cars and free reclining chair cars, equipped with electric fans and electric lights.

Very low rates all summer. A special cut August 30 to September 4.

Full details on request.



JOHN SEBASTIAN,
Passenger Traffic Manager
CHICAGO

A Long Jump or Two Short Steps



Find an Elmore agent or user and you'll find a two-cycle enthusiast. The fame of the two-cycle idea has spread this season from ocean to ocean. Its principle—a continuous application of power—is irresistible and indisputable; and that principle is put into practice with absolutely perfect success in

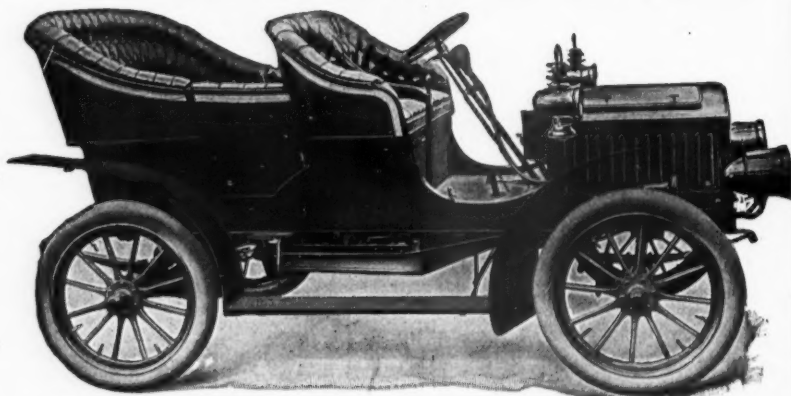
THE TWO-CYCLE ELMORE

Picture to yourself two men—one trying to cover the ground in long, hard jumps, the other forging ahead in quick, short steps. The first is the four-cycle—and bound to lose against the two-cycle with its even, steady gait. We have a book called "A Long Jump or Two Short Steps," which explains this in A B C style.

Better still, we have a record of victories in every test worthy of the name. Better still, we have the every-day testimony of thousands of users to which you can easily refer.

The Elmore two-cycle engine is no longer the "coming" engine—it is here. You'd better join the army of enthusiastic converts. Ask your agent or write to us.

Representatives: A. E. Ranney & Co., New York; Gawthrop & Wister, Philadelphia; Seneca Auto Co., Rochester; Young & Miller, Detroit; Hein & Casper, Milwaukee; W. W. Leathers Co., St. Louis; Lowry Mfg. Co., San Antonio; J. A. Rosesteel, Los Angeles.



THE ELMORE MFG. CO.

2304 Amanda Street

CLYDE, OHIO

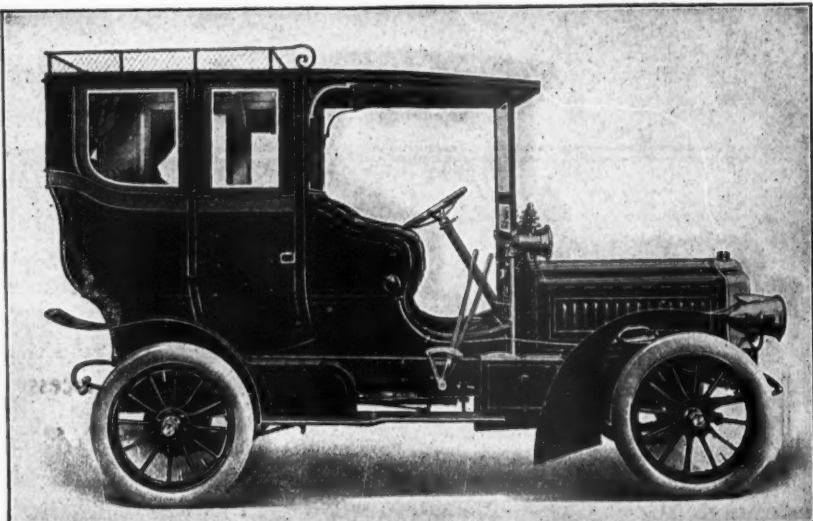
ANNOUNCEMENT!

Owners of 50 h. p.
Thomas Flyers

We are prepared to supply

Limousine Bodies
for
Winter Driving

Beveled plate glass—wide
doors—electric lights.

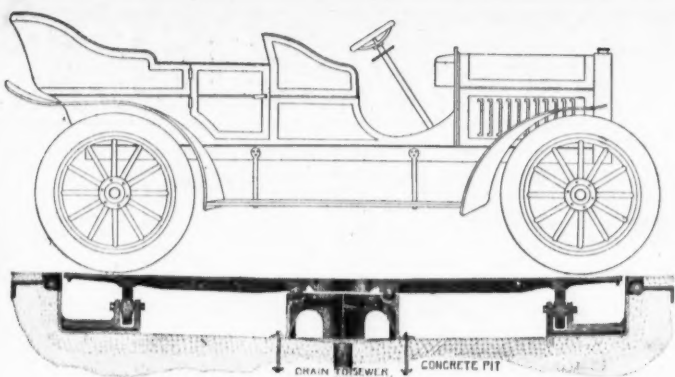


Seats five in the rear—upholstered in any color of leather or broadcloth—speaking tubes—toilet sets, etc.

Order now from our agents or direct from

E. R. THOMAS MOTOR CO.,

1202 NIAGARA STREET
BUFFALO, N. Y.



THE AUTOMOBILE WASHSTAND-TURNTABLE

PATENT APPLIED FOR

It greatly increases the capacity of a garage by saving the space otherwise required for maneuvering cars. It also permits a car to always face the door thereby avoiding the inconvenience and danger of accident incident to backing it, when the approach is difficult.

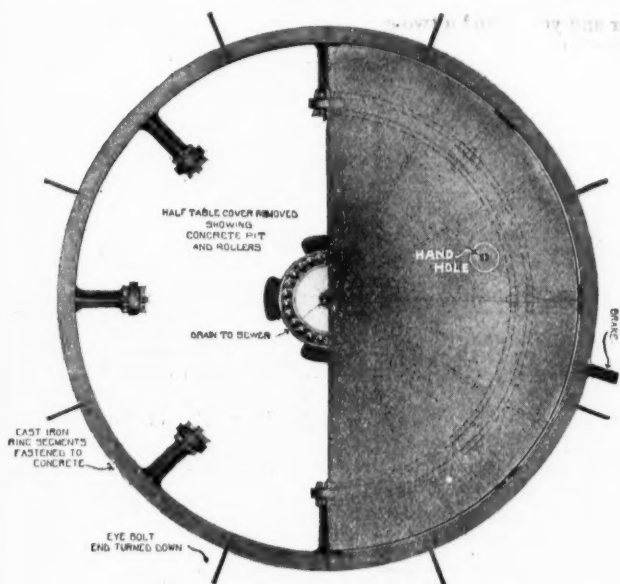
The Table is of cast-iron supported by a ball-bearing pedestal in center and rollers near its outer edge. It rests in a concrete pit about 12" deep, the edges of which are protected by an iron ring or curb as shown.

It moves easily, is practically indestructible and is absolutely fire-proof.

It greatly facilitates the washing of cars, all water from surface of table and garage floor passing to sewer through a drain-pipe in center of pit.

We make Washstand-Turntables and also plain turntables (without the washstand feature) for wheel bases up to 126 inches.

We will be pleased to send full descriptive matter and quote prices on request.



Sectional views of WASHSTAND-TURNTABLE.

Link-Belt Machinery Co.

CHICAGO



Timken-Lemoine Front Axle (Roller Bearing)

TIMKEN Axles and Roller Bearings are simply perfect in principle, design, construction and in operation. They *do what others almost do.*

That's why they meet the requirements of exacting engineers of the leading automobile manufacturers. They're made a little better than seems necessary—result, they do what others *almost do.*

We have an efficient hustling corps in our selling organization, on the theory that our business is to assist you to increase your business.

Put the burden of the proof on us, use our axles and bearings and your experience will be that of thousands of others—not a dissatisfied customer.

Write us about it. Direct drive axles, divided and solid rear axles, knuckles, special bearings and cups, wheels and channel rims.

Timken Roller Bearing Axle Co.

General Office and Works, Canton, Ohio

"NOTHING TO IT" BUT BUSY Diamond DAYS

Aug. 18—Percy F. Megargel left New York for Portland, Ore., his car equipped with Diamond Wrapped tread tires of course—the sixth transcontinental trip for Diamonds.

Aug. 14—Every event in Cleveland race meet won on Diamond tires, including Lytle's new five-mile world record for cars of 1,432 pounds or under (4:57 3-5), Webb Jay's victories and Burman's five-mile National Circuit Championship score.

Aug. 12—417 cars in paddock at Cleveland races, 251 of them equipped with Diamond tires.

Aug. 9—Leading dealer in prominent New England city protests that "Diamond Wrapped tread tires are altogether too good, as customers need no tubes or shoes and we miss sales."

Aug. 7—Chas. Burman and his new racer made initial bow at Detroit. Tire equipment Diamond Wrapped tread construction. The same equipment on 7 of 11 cars in these races.

Aug. 5—"All six cars in tour here to Buffalo and return equipped with Diamond Wrapped tread tires. Except one puncture no tire trouble on any of the six cars in entire 1,100 miles traveled."—F. J. Mallvey, Parkersburg, W. Va.

Aug. 3—E. F. Simmons and family left New York to attend Portland, Ore., Exposition, traveling the entire distance in touring car equipped with Diamond Wrapped tread tires.

THE DIAMOND RUBBER CO.

AKRON, OHIO

BRANCHES:

NEW YORK.....	78 Reade Street
NEW YORK.....	1717 Broadway
BOSTON.....	174 Columbus Avenue
BUFFALO.....	41 Court Street
PHILADELPHIA.....	304-306 N. Broad Street
CHICAGO.....	1241 Michigan Avenue
CHICAGO.....	167-169 Lake Street
DETROIT.....	310 Woodward Avenue
ST. LOUIS.....	3968 Olive Street
SAN FRANCISCO.....	608 Mission Street
MINNEAPOLIS.....	611 First Avenue, S.
DENVER.....	1735 Arapahoe Street
CLEVELAND.....	323 Huron Street
ATLANTA.....	94 North Pryor Street

BRYANT RIM



Every Automobile Owner

owes it to himself to investigate the merits of the Bryant Rim.

Because it eliminates tire troubles and adds to the pleasure of motoring.

Where it is used you can remove your tire in thirty seconds and replace it in the same time

WITH NO TOOLS BUT THE HANDS

Repairing a tire is a matter of but a few moments. You use no tools and run no risk of injuring the tire, thus adding greatly to its life.

Bryant Rims save annoyance and time and soon pay for themselves by the saving in tire expense.

They may be used on any wheel or with any clincher tire, old or new, and may be applied by any blacksmith or garage, at slight expense.

Ask your dealer for Bryant Rims. If he won't supply you we will. Use them 30 days and if not perfectly satisfied we will refund your money

Write for Booklet.

The Bryant Steel Wheel & Rim Co.

456 Hayden Bank Bldg.,

Columbus, Ohio





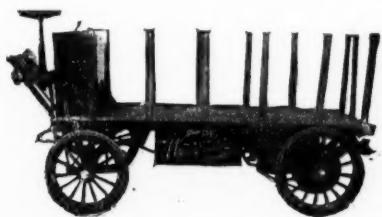
Modern Delivery

Electric power furnishes the ideal delivery service. In time it will be applied to all business wagons—not only those engaged in delivery for retail stores, but also for all heavy hauling.

In many large cities the old-fashioned dray is being supplanted by electric trucks, of which the Pope-Waverley is a leader. It is built to meet the special needs of any business. They are handled with ease through the heaviest street traffic; occupy little space at loading platforms; carry as much as five tons, and spin along more rapidly than a team of horses could trot with one ton.

A Pope-Waverley Electric Truck will get its load and be gone, while the horse-drawn dray is trying to get a place at the platform.

It is for "all the year round" service, suitable for winter as well as summer.



Electric Trucks

OF FROM ONE TO FIVE TONS
CAPACITY

Send for Catalogue and Complete Information

Pope Motor Car Co.

INDIANAPOLIS, IND.

The Incomparable WHITE

The Car for Service



AN ECHO OF THE CHICAGO-ST. PAUL TOUR

Mr. M. K. Weems, who piloted the third White steamer which completed this memorable trip, writes us as follows:

"The proudest fact we have to report is that, so far as we were able to learn in conversing with those who came through, excepting yourself (Walter C. White) and Mr. Sheridan, we were the only car that made the trip that was not pulled out of the mud by a team. When the fact is considered that I had never operated an automobile until April and had never taken care of a car of any kind until I started on this trip, and that my companion had no experience, and cannot even now operate a car, I believe that our record speaks volumes for the efficiency, simplicity and ease of management of your cars."

If you want a car that you can drive and care for yourself, you had better investigate the White.

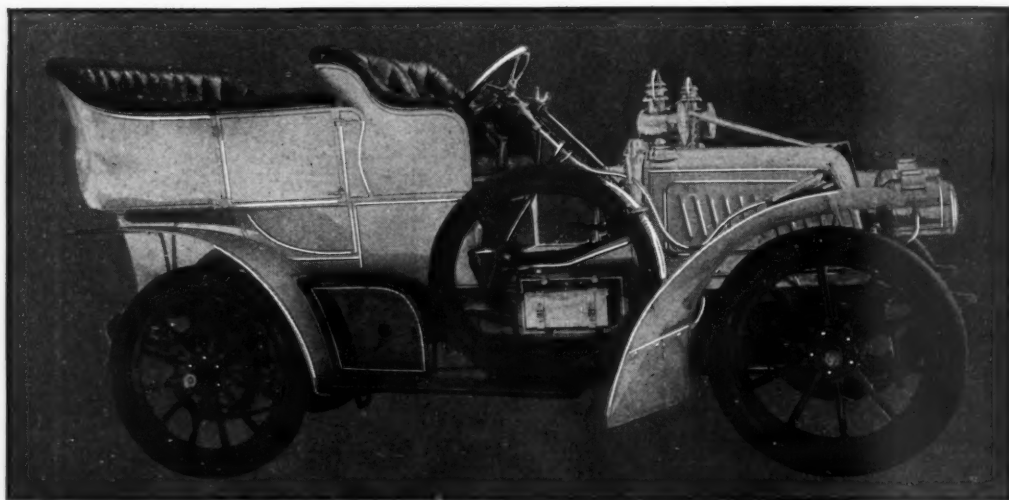
LITERATURE ON REQUEST

WHITE Sewing Machine COMPANY

Cleveland, Ohio

WORTHINGTON AUTOMOBILE COMPANY

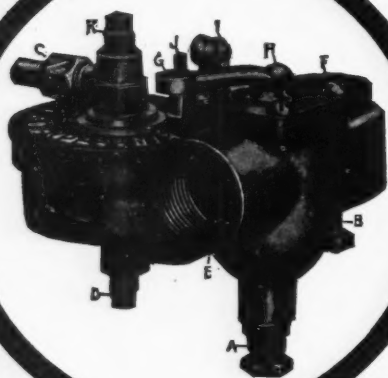
547 Fifth Avenue **COMPANY** New York City



24 h. p. Berg Touring Car

IMMEDIATE DELIVERY

MEMBERS A. L. A. M.



KINGSTON 1906 TYPE-K- AUTOMATIC CARBURETOR

EASY TO UNDERSTAND EASY TO OPERATE

Fuel controlled entirely by equalizing automatic air valves.

Will increase POWER and CONTROL of any 1905 FORD or OLDS car, or money back.

Positively will not accumulate fuel in, or CLOG LONG INLET PIPES.

Perfectly adapted to gasoline cars, boats, airships and motors for any kind of service.

Built for business by the oldest manufacturers in the business.

OVER 29,000 KINGSTON CARBURETORS IN USE

KINGSTON MUFFLER



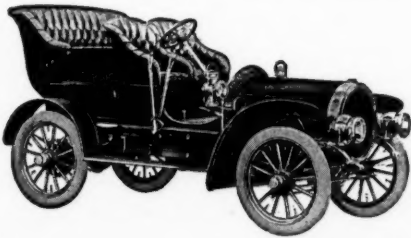
**IMPROVED
FOR 1906**

BYRNE, KINGSTON & CO.,

KOKOMO, INDIANA, U. S. A.

National Motor Cars

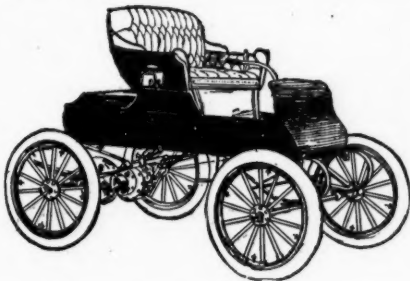
"WATCH FOR THE ROUND RADIATOR"



National
Model C.
24-30 H. P.
4 cyl., 4 $\frac{1}{2}$ x5

A touring car decidedly in advance of the times.
A type of car that will be extensively copied in the near future.
Ample power and speed, perfect control.
All working parts simply arranged and remarkably accessible

National
Electric
Runabout



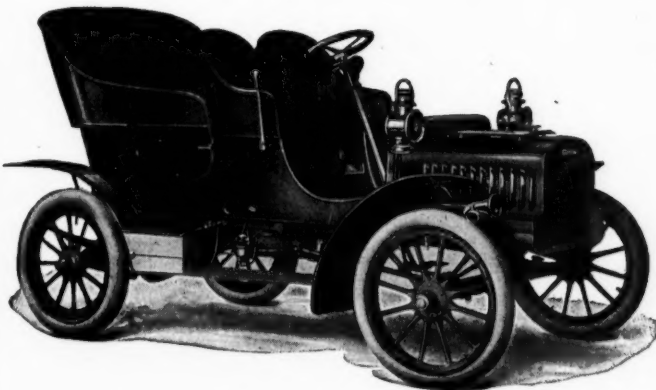
One of several handy little electric cars which are unsurpassed for convenience and comfort. Write for our catalogues.

NATIONAL MOTOR VEHICLE CO.

Members American Motor Car Manufacturers' Association, Chicago.

1006 East Twenty-second Street, INDIANAPOLIS, IND.

THE MOLINE



12 Horse Power

Model "D" \$1000

Double Cylinder Opposed Motor. [4 $\frac{1}{2}$ in.x4 $\frac{1}{2}$ in.]
86-inch wheel base. 30-inch wheels. 3 $\frac{1}{2}$ -inch tires, rear;
3-inch front. Detachable tonneau with wide side entrance.

Model "B"—4 Cylinder, 18-20 H. P. Touring Car, \$1600.

MOLINE AUTOMOBILE COMPANY

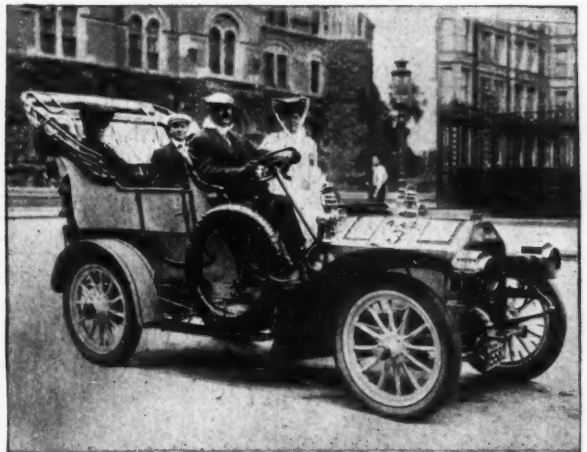
Members American Motor Car Manufacturers' Association, Chicago.

EAST MOLINE, ILLINOIS

MEAD MOTOR CO., Chicago Agents

Peerless

The Car
of
Achievement



Mr. Harlan W. Whipple and Party starting on the
Glidden Tour in his Peerless Car.

From the Ex-President of the A. A. A.

Andover, Mass., July 19, 1905.

The Peerless Motor Car Co.,
Cleveland, O.

Gentlemen:—

I am delighted with my car.
I have had 15 cars before it and
like it after driving it 2600
miles better than any car I ever
owned so far.

Yours very sincerely,

[Signed] Harlan W. Whipple.

The Peerless Motor Car Co.

Lisbon Street, Cleveland, Ohio

Member A. L. A. M.



SEARCHLIGHT SWINDLERS

The success of the Rushmore Lens Mirror Searchlight has been so complete that as a matter of course the lantern makers have been compelled to either try to imitate it or go out of business.

A number of them have conspired to keep us out of the automobile shows, have claimed that we do not make the celebrated Rushmore Lens Mirror and that they get their cheap flat lenses from the same place, and have resorted to every contemptible trick to deceive people into buying their trash.

Certain so-called jobbers have tried to push the sale of the imitation lights by issuing lists of what are insinuated to be our prices in comparison with their alleged cheap prices. The statement that we ask the prices quoted is a deliberate and malicious

lie. The prices they offer are but a few cents lower than ours, while the fake lights they offer are by comparison not worth their weight as junk.

Some of the fake jobbers refuse to furnish the Rushmore light when requested to do so on the plea that we cannot make delivery. That statement is likewise a deliberate lie. They offer to refund your money if not as represented, but you had better hold on to your cash.

We do not ask any money in advance, but will send the Searchlight on ten days' free trial to anyone worthy of credit. The fake jobber can make but 25 per cent to 30 per cent on the Rushmore, while he clears 100 per cent to 200 per cent on the fake lights which he obtains on consignment. Do you wonder that he is willing to cheat you?

Our prices are the lowest for the quality and we ship from stock.

Rushmore Dynamo Works, - Plainfield, N. J.

GAS-AU-LEC

A 40-45 H. P., 4-cylinder, 4-cycle engine, five passenger, side entrance, Gasolene Touring Car of the Highest Grade.

WITHOUT { Starting Crank Cams Valve Gearing
Change Speed Gears Rocket Shafts or
Clutch Tappets Complications

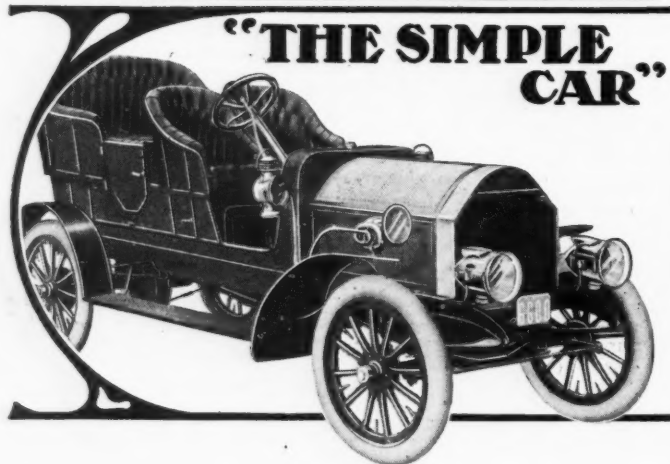
Every movement of the motive power and the car, from a state of absolute rest, forward at any speed or reverse, is controlled by one lever, operated either by hand or foot, as preferred. Positively no other speed or movement controlling device of any kind on the car. Triple brakes—irreversible steering gear.

**THE GAS-AU-LEC IS THE SIMPLEST
GASOLENE CAR IN THE WORLD**

both as to construction and control, and the easiest to operate and maintain. Elegant Finish, Luxurious in Appointments, Built by Skilled Workmen from the Best Materials Obtainable.

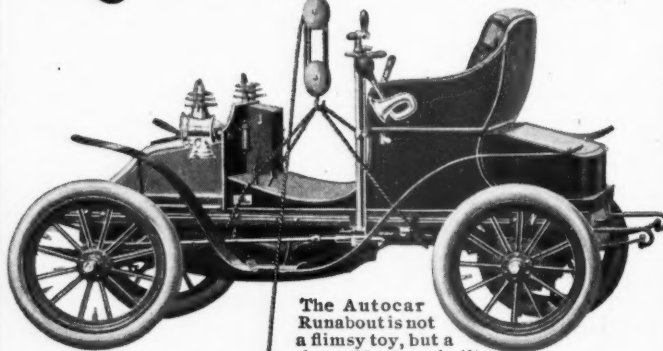
CORWIN MFG. COMPANY Formerly Vaughn Machine Co.
PEABODY, MASS., U. S. A.

"Marks a New Era in Automobile Construction"



**"THE SIMPLE
CAR"**

Autocar Type X
\$900



**The
Runabout
That Can
Lift
275 Times
Its Own
Weight**

The Autocar Runabout is not a flimsy toy, but a thoroughbred car built along the lines of the best foreign and American touring cars. Strong, powerful and fast. It weighs 1200 lbs. and has a motor of ten horse-power—able to lift 275 times the weight of the car.

This motor is of the two-cylinder opposed type—practically vibrationless. Motor is located under hood in front where it is instantly accessible. There are three forward speeds and reverse. The car can be run from 3 to 35 miles an hour, and is a great hill climber. In addition to the above features the Autocar Runabout has ball bearings and shaft drive. The price of this car is \$900. Our catalogue fully describes and illustrates it, together with our Type VIII, four-passenger, \$1400 car; and our Type XI, four-cylinder, side-entrance tonneau, \$2000 car. Catalogue and dealer's name free.

THE AUTOCAR COMPANY,
Ardmore, Pa.
Member Asso. Licensed Auto. Mfrs.



Columbia

Electric Victoria-Phaeton

MARK LXI

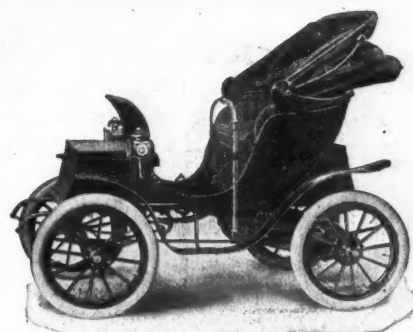
We can now make immediate delivery of this beautiful carriage—the lightest, fastest, widest of radius, and most luxuriously furnished of any electric in its class. Divided Exide Battery. Enclosed Chain Drive.

Catalogue of Columbia Electric Carriages will be sent on request. Also separate Catalogue of Columbia 18 h. p. and 35-40 h. p. Gasolene Cars and Electric Commercial Vehicles

Electric Vehicle Company, Hartford, Conn.

New York Branch: 134, 136, 138 West 39th St.
Chicago Branch: 1413 Michigan Ave.
Boston: Columbia Motor Vehicle Co., 74, 76, 78 Stanhope St.

Washington: Washington E. V. Transportation Co., 15th St. and Ohio Ave.
Philadelphia: Pennsylvania Electric Vehicle Co., 250 North Broad St.
Member Association Licensed Automobile Manufacturers.



Price, \$1,350. "De Luxe" Throughout

DIETZ

DIETZ MOTOR LAMPS

Our Oil Lamps are fitted with the most convenient method of fastening the oil pot to the body of the Lamp. It only requires one hand. You press with the thumb on the spring and give a short turn and the oil pot is loosened. In order to put it on again, you simply have to insert with the thumb pressed on the spring and turn a slight distance to the right. It is then locked on securely and positively and cannot be shaken off. When the oil pot is taken off, the burner comes with it, and the lamp can be handled without soiling the hands.

R. E. DIETZ COMPANY, 37 Laight St., New York
ESTABLISHED 1840

The Kellogg Multiple Gear Pump...

**JOBBER
DEALERS
USERS**

This is the limit of perfection. ... 1906 Catalogue will soon be ready.

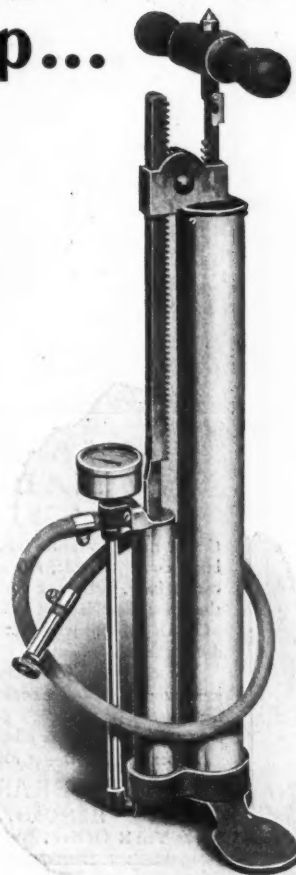
... Write...

**WRAY PUMP &
REGISTER CO.**

191-193 Mill St.

Rochester, N. Y.

Or Brandenburg Bros. &
Alliger, 103 Reade St.,
New York City, 85 Lake
St., Chicago, Ill.



24 H. P., \$5,000
40 H. P., \$6,000

"Matheson"

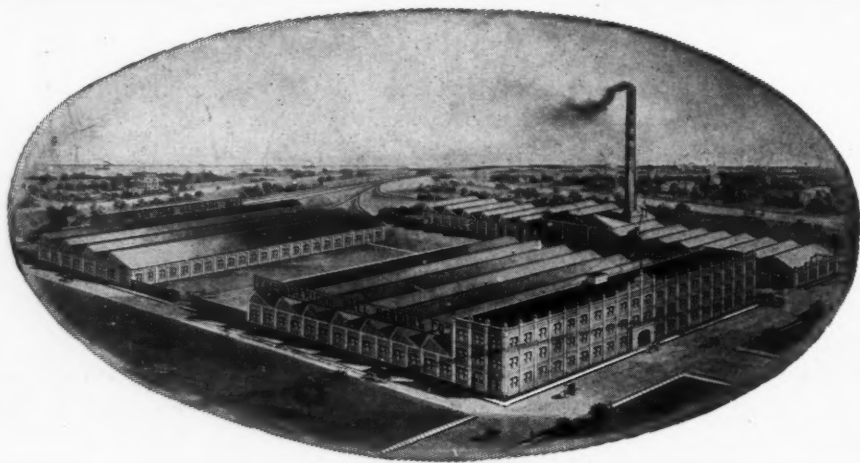
**END FOR
CATALOGUE**

"AMERICA'S FINEST MOTOR CAR"

CHARACTERISTIC FEATURES:

Self-starting from the seat.
Practically noiseless.
Absence of vibration.
Four-cylinder vertical engine.
Valves, in the head.
Automatic carburetor, never requires adjustment.
Automatic speed control, by governor.
Automatic lubrication.
Single lever control.
"Make-and-Break" ignition.
Irreversible steering gear.
Four powerful brakes.
Timken roller bearings.
Armored frame.
Road clearance of 12 inches.
Side entrance.
Aluminum body.
Wheel base 106 inches.
Imported "Continental" tires.
Improved Honeycomb-radiator.
Long life—insured by using greater factors of safety in every vital part than ordinarily employed.
Speed—Guaranteed 40 to 60 miles an hour, according to H. P. gear.

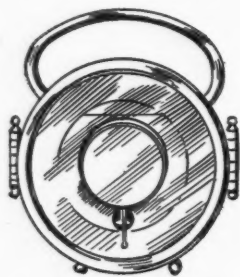
MATHESON MOTOR CAR CO., Holyoke, Mass.
New York Agents, SHEPARD BROS., 500 Fifth Ave.



The output of COMPLETE FRONT and REAR AUTOMOBILE AXLES of this plant exceeds the capacity of all competition combined.

THE AMERICAN BALL BEARING CO.

L. S. & M. S. Railway and Edgewater Park
CLEVELAND, OHIO, U. S. A.



The
absolute best in Motor Lamps

THIS SOLAR PARABOLENS HEADLIGHT

throws most powerful beam of any lamp made, yet burns cool. Simple, safe and sure, no better lamp can be built. The most your dealer will say about the next best is that it is "just as good as a SOLAR"—but why not buy the standard and dodge the second best?

We stand back of every SOLAR lamp with a guarantee to you—a warranty that leaves no room for risk on the buyer's part. You can't buy better lamps—whether oil or acetylene.

Write for booklet—or ask your supply man.

BADGER BRASS MFG. CO.
KENOSHA, WIS.

New York Office, 11 Warren St.

RAPIDLY MAKING FRIENDS
AMONG AUTOMOBILISTS

"20th Century SOAP"

NOTHING CAN COMPARE WITH IT

As a cleanser and polisher of highly finished auto bodies and metal parts. As a reviver of luxurious upholstery and carriage cushions it stands supreme.

It contains no lye; is made of strictly pure vegetable oils and is an absolutely pure soap.

The pure oils of which it is made are very beneficial to the skin and keep the hands in good condition.

DOES TWICE THE WORK IN HALF THE TIME

"20th Century Soap" can be bought at almost any store in any of the following weights:

1 lb. Can, 10c	15 lb. Pall, 75c	60 lb. Tub, \$2.50
3½ lb. Pall, 25c	25 lb. Pall, \$1.15	or in Barrels

BUY IT TODAY—LET NOTHING INTERFERE

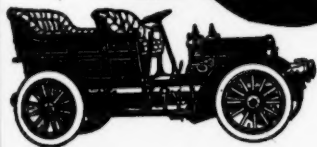
HOFFHEIMER SOAP CO.
CHICAGO

Search Light Mirror Lenses



Bausch & Lomb Optical Co.
Rochester N.Y.

Locomobile



The Locomobile Company of America, Bridgeport, Conn.

Member Association Licensed Automobile Manufacturers.

NEW YORK, Broadway and 76th St.
PHILADELPHIA, 249 N. Broad St.

BOSTON, 15 Berkeley St.
CHICAGO, 1354 Michigan Ave.



THE LIMIT

**OF UNFAILING
CARBURETER
EFFICIENCY**

Here's Proof

From the
Four Wheel Drive Wagon Co.
of Milwaukee
Commercial Motor Vehicle
Builders

... After expending about \$150
for various makes of carbureters and
finding them all defective because
of lack of range in throttling the
engine, we were much pleased upon
installing your Acorn carbureter.

We find this carbureter feeding
the engine evenly and properly from
the lowest to the highest speeds and
WE DO NOT HESITATE TO RECOMMEND
IT AS THE BEST CARBURETER WE
HAVE TRIED.

IT FED OUR ENGINE PROPERLY IN
ALL OUR RECENT TESTS, HAULING AS
HIGH AS 27,000 LBS. GROSS WEIGHT
ON OUR TRUCK, NEVER MISSING EX-
PLOSION A SINGLE TIME. ... ETC.
FOUR WHEEL DRIVE WAGON CO.,
H. Theo Hansen, V. Pres. and Mgr.

It's not what we claim, so much as what actual users say of

ACORN CARBURETERS

that proves their Sterling Reliability. A trial will convince anybody. Write

BLACK & KRUEGER
Milwaukee Wisconsin

No Excess Fare Charged on Nickel Plate R. R.

Its trains are composed of the best equipment, consisting of through vestibuled sleeping cars in both directions between Chicago, Cleveland, Buffalo, New York, Boston and intermediate points, with unexcelled Dining Car Service, meals being served in Nickel Plate dining cars on the American Club Meal Plan, ranging in price from 35 cents to \$1.00; Mid-day Luncheon, 50 cents.

Train No. 2, leaving Chicago at 10:35 a. m. daily, has through vestibuled sleepers for Boston, via Nickel Plate, West Shore and Boston & Maine Roads, and through vestibuled sleepers to New York and intermediate points, via Nickel Plate and both the Lackawanna and West Shore Roads.

Train No. 4, leaving Chicago at 2:30 p. m. daily, has through vestibuled sleeping cars for Buffalo, New York and intermediate points.

Train No. 6, leaving Chicago at 9:15 p. m. daily, has through vestibuled sleeping cars for Fort Wayne, Cleveland, Erie, Buffalo, New York and intermediate points, arriving at New York City early the second morning.

Rates always the lowest. Write, 'phone or call on nearest ticket agent, or

JOHN Y. CALAHAN,
General Agent Nickel Plate Road, No. 113 Adams
Street, Room 298, Chicago. Chicago Depot, La
Salle and Van Buren Streets.

BRENNAN

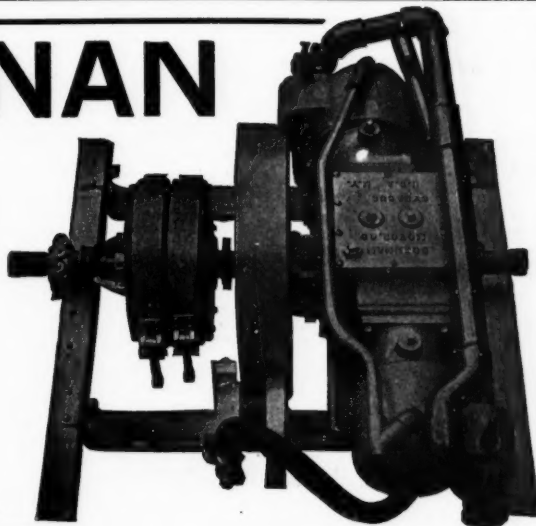
UNEXCELLED for

Simplicity of Construction

Substantial and
LARGE Bearings

EASE OF ADJUSTMENT
AND
ACCESSIBILITY

Let us PROVE these claims



MOTORS

Built in 6, 8, 12, 14, 16 and 20 h. p.

To use the BRENNAN means
Positive Satisfaction

Write for Particulars

Brennan Motor Co.

Syracuse : : : New York

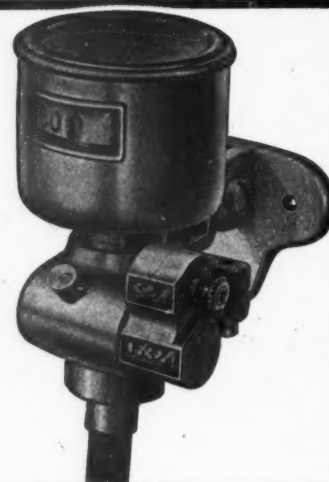
WARNER AUTO-METER

WHEN touring and you strike a stretch of road as smooth as a race track, wouldn't you like to know *exactly* how fast you are going?

WHEN the sign board tells you not to go through town faster than 8 miles, wouldn't you like to keep within that limit for the time being?

IF some self-important town constable lands you before the village magistrate, wouldn't you like to own an Auto-Meter as a witness in your behalf?

DON'T you know that the Warner Auto-Meter tells you *accurately* how fast you are driving and how far you have gone?



TELLS YOU THE TRUTH

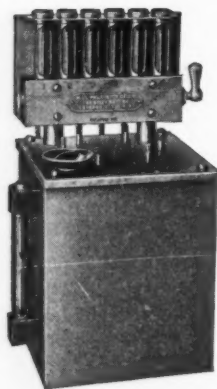
Send for Catalogue and "Indisputable Evidence"

WARNER INSTRUMENT CO., 55 Roosevelt St., Beloit, Wis.

THE HILL PRECISION OILER

INSURES PERFECT LUBRICATION

Your Money Back if it Does Not do the Work



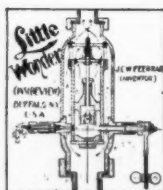
It measures the oil, and uniformly forces exact quantities to each bearing it serves, regardless of the resistance, or of the varying resistance, in the different tubes. It feeds only when the machinery is in motion.

THE STEEL BALL COMPANY
832 Austin Avenue
CHICAGO, U. S. A.

PATENTS PENDING IN ALL COUNTRIES

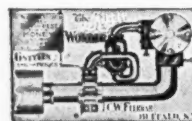
The Little Wonder Carburetor Manufacturing Company

347 Franklin Street
BUFFALO, N. Y.



This carburetor will fit all classes of motors, from one-horse power up, and is especially adapted to automobile and marine engines.

The "Little Wonder" Carburetor, used in connection with our Hot Air



Generator on the exhaust pipe, is guaranteed to increase your horsepower from ten to twenty per cent, economizing in fuel consumption, giving a perfect mixture in quantity and quality at all engine speeds; it is 100 per cent safer than the float-feed carburetor, and is positively guaranteed not to ignite or explode, and is absolutely impervious to flame or back-firing.

The "Little Wonder" Carburetor is hot-air jacketed, as enclosed cut shows, thereby increasing the vaporization of the gasoline, and giving a hot gas mixture under all atmospheric conditions. Our Carburetor will not leak, freeze, flood or cause any trouble, as is the case with other carburetors now on the market. Our object in placing this carburetor on the market has been to supply the increasing demand for an entirely automatic, simple, reliable and absolutely fireproof form of carbureting device. That we have succeeded in our efforts has been thoroughly proved by the appreciation of the many users and advocates of the pump-feed type of carburetor. In the "Little Wonder" Carburetor the air as well as the gasoline can be regulated at will by the operator. Our Carburetor is so simple that anyone of ordinary mechanical ability may perfectly adjust and apply same to motor.

Prices quoted upon application.

Generator, listed \$10.00 Carburetor, listed \$15.00

Ask for quotation and give diameter of exhaust pipe, 1 1/2" up. We build Gas Engines and Steam Engines; also Racing Machines for roadway and waterway, all combined in one. See cuts. Ask for prices on our Wheel Crank for pulling off and on wheels.

Respectfully yours,

J. C. W. FEERRAR, General Manager and Owner.

Have you seen the new KOKOMO Mechanically - Attached AUTOMOBILE TIRE?



It is just what you Have been looking for

Quickly attached and detached. Creeping and Rim Cutting entirely avoided. Made of the very best material and workmanship throughout.

Write us for full particulars.

Kokomo Rubber Co., Kokomo, Ind.





REO

Cars of Honor

REO Touring Car, 16 h. p., 1500 pounds, 90-inch wheel base, 5 passengers, side door detachable tonneau. Speed 35 miles per hour. \$1250.

Both REO Cars that took part in the famous Glidden Tour received First-Class Certificates of Honor. One for each Car.

They were both alike and their performance received special mention next to the winning car; which was double the REO's horse power and more than three times its price.

One of these REOs won First Prize in the "\$2000 and under" class in the Mt. Washington "Climb to the Clouds."

Honor REOs. They'll Honor You.

RUNABOUT—8 h. p., 900 pounds, 2 passengers, 25 miles per hour. \$650.

REO Motor Car Company

R. E. Olds, President

R. M. Owen, Sales Mgr.

Office: 138 W. 38th Street, New York City

Factory: Lansing, Michigan



Northern

"Silent and Dustless."



Quietest and easiest running car in the world.

THE ONLY CAR WITH

motor and entire mechanism, including crank shaft and transmission gear, encased; with only one universal joint; with machinery tipped 12 degrees downward, throwing crank shaft on direct line to rear axle; with only three vital points to oil; with self-locking foot throttle; with 4-inch tires—at \$1700.

No Strut rods, truss rods, bolts, chains, or gaskets. No oil tubes. No side levers or any other attachments on body. No noise. No vibration. No dust.

All parts easily accessible. Never any need to crawl under car. Write for complete Catalogue.

18 H. P., Side Entrance,	-	-	\$1700
Limousine Pattern,	-	-	2500
Runabout, 7 H. P.,	-	-	650

NORTHERN MFG. CO.

Member A. L. A. M. DETROIT, MICH.

New York City Agent, Peter Fogarty, 148 W. 38th St.



THE COIL THAT DOES THE TRICK

In the Climb to the Clouds

Chas. Soules, driving a Pope-Toledo fully equipped Touring Car made the ascent in 29:37 2-5. This is considered a most wonderful performance. Besides

SPLITDORF COILS

were winners in nearly every event.

Ask the Glidden Tourists how they like the Splitdorf Coil.

Seventy-five per cent of the cars on the tour were equipped with them.

HERE IS DR. PARKER'S LETTER:

MR. C. F. SPLITDORF, June 24th, 1905.
Dear Sir: I feel that in the recent 200 mile contest my success, in a large degree, was due to your coil. It seems to me that your latest is superior to anything in use to date. I tell my automobile friends to give me a SPLITDORF for reliability every time.
Very truly,
C. B. PARKER.
167 Remsen St., Brooklyn, N. Y.

Winner of Recent Economy Test of Long Island Automobile Club.

C. F. SPLITDORF 17-27 Vandewater St.,
NEW YORK
The Largest and Most Successful Coil Maker in the World

Don't Drive a Car Without a KODAK



\$10.00

\$12.00

New No. 1 and 1A Folding Pocket Kodaks

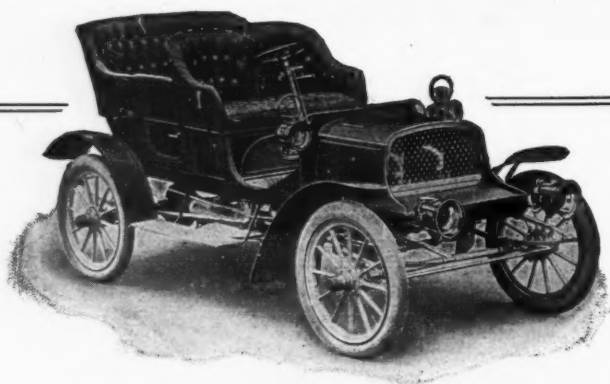
They work with a snappy precision that is a mechanical delight.

Automatic iris diaphragm shutters, Meniscus Achromatic lenses.

EASTMAN KODAK CO.

Catalogues at the dealers or by mail

Rochester, N. Y.
The Kodak City



PREMIER

Four-Cylinder

Air-Cooled

Absolute Satisfaction

THE DRIVER IS SATISFIED
THE AGENT IS SATISFIED
AND WE ARE SATISFIED

Read the following:

CANTON, O., July 27, 1905.

PREMIER MOTOR CO., Indianapolis, Ind.

Gentlemen:—I cannot resist writing you of the very successful trip made by Mr. R. R. Kenney with a model F Premier runabout, a distance of between 900 and 1000 miles with **absolutely no trouble**—not even to clean a spark plug. Mr. Kenney says his car is worth \$500 more than he paid for it. I have several Premier air-cooled cars running here, and they are doing fine.

Yours very truly, S. FRED BASKERVILLE.

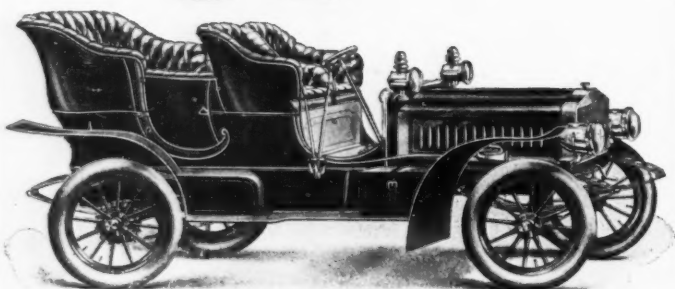
PREMIER MOTOR MFG. CO.

1001 George Street

Indianapolis, Ind.

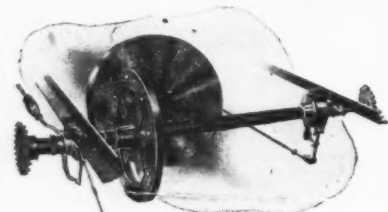
Members American Motor Car Manufacturers' Association, Chicago.

THE LAMBERT



Model 7. 28-32 h. p., \$2,000

A 16 h. p. Runabout



Our Noiseless Transmission

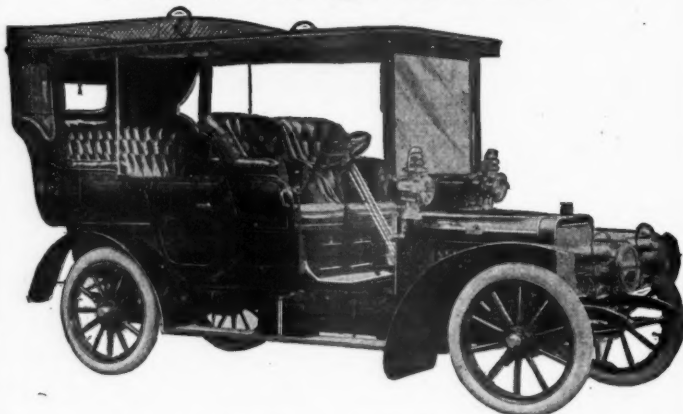
The most powerful machine on the market, a 1906 model. Write for specifications.

The Buckeye Mfg. Co.
ANDERSON, IND.

Members American Motor Car Manufacturers' Association, Chicago.

THE DARRACQ

Represents the Most Advanced
Features in Foreign Improvement



Equipped with the Latest Magneto and Jump Spark
Ignition :: Perfect Automatic Throttle
Control :: Positively Noiseless

LET US PROVE THIS TO YOU

ALL PARTS KEPT IN STOCK

THE F. A. LA ROCHE CO.

Licensed Importers under Selden Patent 549,160.

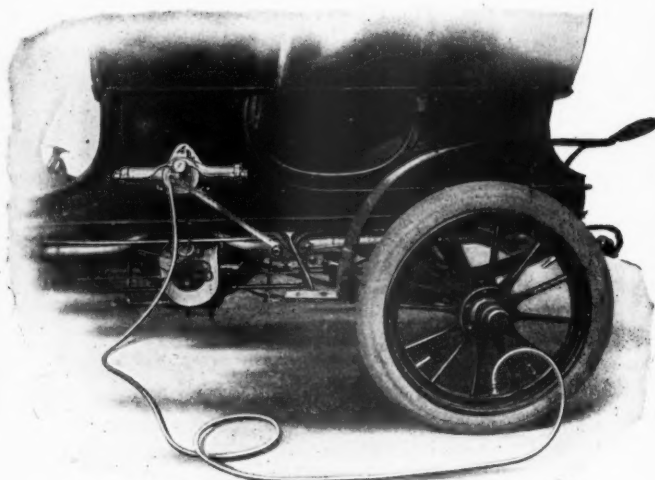
652 to 664 Hudson Street, :: NEW YORK

Up Town Store, 147 W. 38th Street, NEW YORK

Save Time and Strength

Pumping tires isn't hard work unless you make it so. Nothing could be easier if you use the

Lea Tire Pump



A few twists of the crank and the tire is pumped up. The pressure gauge enables you to have each tire properly and evenly inflated and means longer life for the tires.

Always ready for use and won't get out of order.

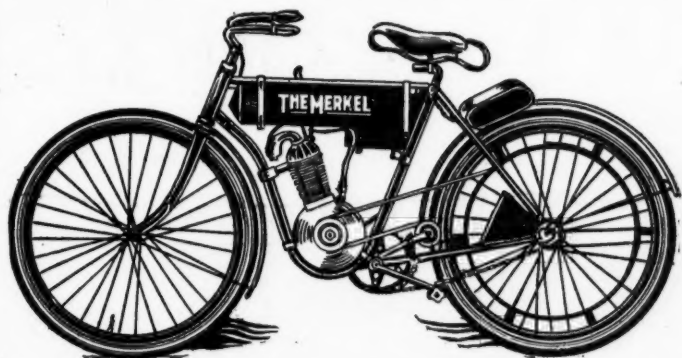
Write for latest booklet B and proposition to agents.

William S. Jones

Sole Selling Agent for
Motor Car Specialty Co., Trenton, N. J.

112 North Broad Street

Philadelphia



Merkel Motor Cycle

BUILT LIKE A WATCH

Merkel Motor Cycles are for hard and lasting service—yet they are very simple in construction. Anyone can operate them. The Merkel has a Triple Fork with extended fork sides, and double stem handle bar.

SOME IMPORTANT POINTS. The transmission is by a one inch flat belt running over leather covered pulleys. Carries enough gasoline to run motor over 100 miles.

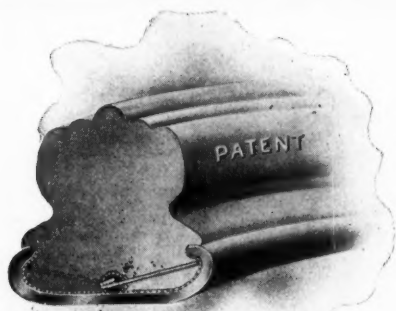
We want dealers to write to us.

MERKEL MOTOR CO.

Factory Layton Park

1097 26th Ave.

MILWAUKEE, WIS.



1906 SHAPE

WE EQUIP
Pleasure Cars
as well as
Commercial Cars
....with....

Swinehart
TIRES

WHICH ARE ABSOLUTELY SATISFACTORY
UNDER ALL CONDITIONS

Write for Experiences of Others as Given in Catalog A

Swinehart Clincher Tire & Rubber Co.

AKRON, OHIO

New York City, 1773 Broadway

Chicago, 1208 Michigan Boulevard

The Waterless Knox

Commercial Cars



are sold in greater numbers every year.

One reason for this fact is that although they are cars of high power they are always satisfactorily cooled winter and summer by the Knox Patent Pin System of air cooling.

A further reason is that the same simplicity and perfect adaptability for continuous, all-the-year-round service, which is

found in the motor mechanism, characterizes every other detail of their construction.

The absolute reliability and great economy of operation of Knox Commercial Cars commend them everywhere. They are used by leading business houses in all the principal cities of the country.

Six handsome models of Commercial Cars are shown in our regular catalog. Correspondence in regard to cars of particular specifications is invited.

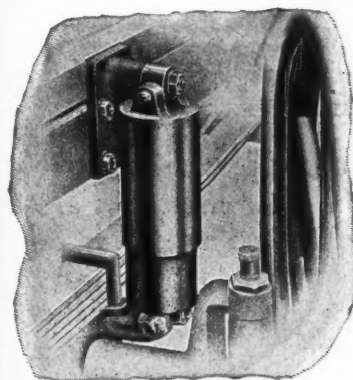
KNOX AUTOMOBILE CO.

Member Association Licensed Automobile Manufacturers.

Springfield, ... Mass.

Largest and Oldest Manufacturers of Gasoline Cars in the Country
Selling Agencies in all Principal Cities

GOODBYE



PATENT ALLOWED.
See illustrated description in Motor Age
of August 3.

**JOLTS
JARS
BUMPS
AND
SHOCKS**

of every nature

THE KILGORE
Automobile Air Cushion
SPRING DEVICE

Permits the use of Flexible Springs on your car and a good steady speed over roads as they come. An investment paying 50% to 500% in cash and large dividends in comfort.

NO Bumping Axles, Broken Springs, Disarranged Motor and Machinery, Telescoped Spines.

SAVES Tires, Springs, Motor and Transmission, Repairs, Oil, Gasoline, Perspiration.

KILGORE AUTOMOBILE AIR CUSHION COMPANY

GENERAL SALES AGENTS UNITED STATES AND CANADA

P. O. Box 820, Buffalo, N. Y.

Agencies: NEW YORK, E. J. Edmond, 52 W. 43d Street.
BOSTON, W. R. Butterfield, 41 Mt. Vernon St., Somerville.
CHICAGO, Wm. R. Johnston, 1336 Michigan Blvd.
MINNEAPOLIS, Barclay Auto Car.

Compound Motor Cars



Model Four, 12-15 H. P., \$1,400

We put the very best possible material and workmanship into our cars, and a full investigation of our claims is all we ask.

The Compound line is one of unusual merit and one that you cannot afford to overlook.

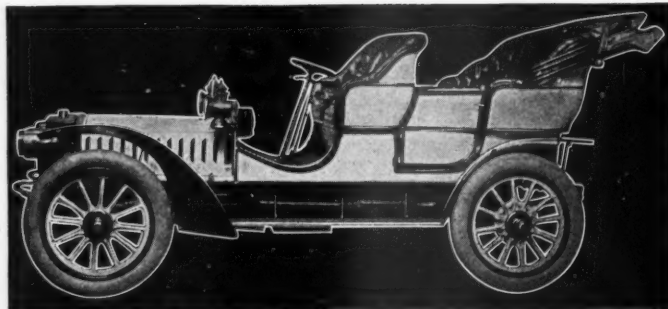
If our agency for your city is open
better write us at once.

THE E. H. V. CO.

**MIDDLETOWN
CONNECTICUT**

AUSTIN

A LUXURIOUS CAR



THAT LOOKS THE PART

Four-cylinder, 5 1-2 in. bore, 5 in. stroke,
50 h. p., weight 2,500 lbs., price \$3,500.

Full Extension Top, \$150.00 extra. 108 inch wheel
base, 36 inch wheels, 4 1-2 inch tires, 44 1-2 inch
rear seat. Bevel gear drive, direct on high speed.
Our new sliding gear transmission has four forward
speeds. Write for complete description.

AUSTIN AUTOMOBILE CO.
GRAND RAPIDS, MICH.

Pressed Steel Frames

And STANDARD PARTS

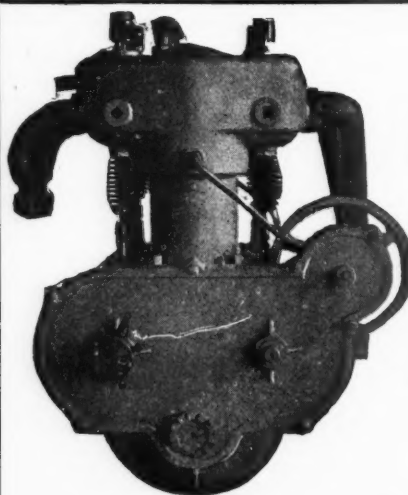
Automobile Manufacturers using our pressed steel frames on their machines are always certain that they have the best of frames procurable in point of reliability. We have recently increased our capacity and are equipped to turn out our standard frames, or frames of special design, in quantities for early delivery. We have presses also for making heaving stampings and pressings of all descriptions and are prepared to do any work in this line. We also make a complete line of

Rear Axles, Front Axles, Clutches, Change-Gears,
Propeller Shafts, Steering Columns, Hubs
and Other Automobile Parts.

A. O. SMITH COMPANY

MILWAUKEE, WIS.

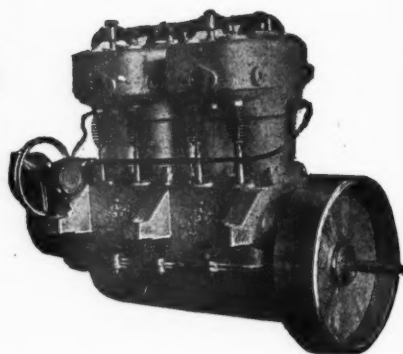
Hayden Eames, Sales Manager, American Trust Bldg., Cleveland, O.



**BUY
KAESTNER
PRODUCT**

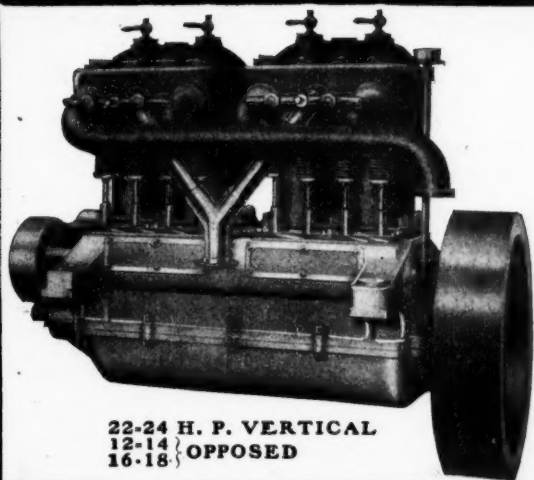
MOTORS

FOR
Automobiles
Boats
and
Mining
Machinery
Transmissions
Etc.



CHAS. KAESTNER MFG. CO.

SOUTH BEND, INDIANA



22-24 H. P. VERTICAL
12-14 OPPOSED
16-18

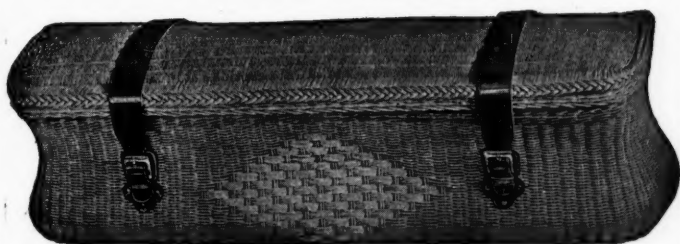
"ARE YOU NEXT" TO THE FACT THAT THE NEW 1906 BEAVER MOTORS

MEET ALL REQUIREMENTS. POWER IN
PLENTY. MORE THAN AMPLE BEAR-
INGS. POSITIVE OILING SYSTEM.

WRITE FOR PARTICULARS.

BEAVER MFG. CO., MILWAUKEE, WISCONSIN.

POUNDED REED HAMPERS FOR 1905 SIDE ENTRANCE CARS



Largest and most complete line of Hampers and Golf Baskets for all cars.
1905 Catalogue ready.

RATTAN NOVELTY CO. Springfield, Mass.

Veeder ODOMETERS

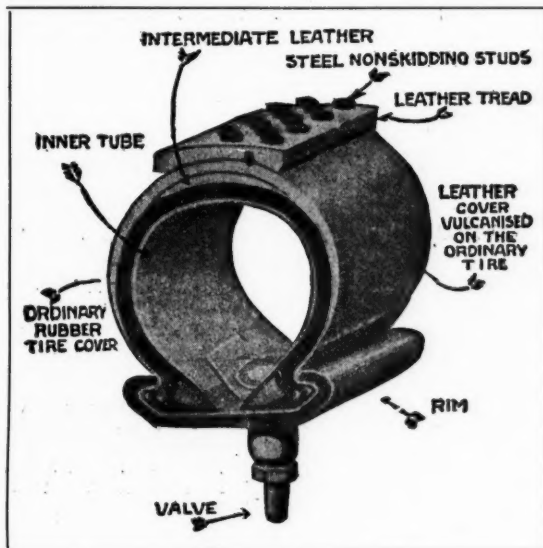
For \$10.00 you can get the Form B Veeder Odometer which goes on the left steering arm, and for \$25.00 you can get the Form D, which goes on the dash. The latter type has two registers, one of which may be set to zero at will.

"It's Nice to Know
How Far You Go."

THE VEEDER MFG. CO., 25 Sargeant Street, Hartford, Conn.
Cyclometers, Odometers, Tachometers, Counters and Fine Castings.

SAMSON LEATHER TIRE

NON-SKIDDING :: :: PUNCTURE PROOF



A. E. GALLIEN, Manager

UNITED STATES BRANCHES:

New York: 12 West 33d Street

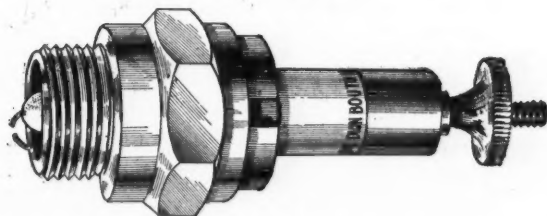
Boston: 20 Park Square

Chicago: 1461 Michigan Boulevard

Philadelphia: 1120 Chestnut Street

FIRST IN THE COUNTRY First in the Hearts of the Automobilists

The one standard automobile plug of the world. The one that has been used for years and is still considered the best plug on the market, regardless of the great number that are now being manufactured in this country and Europe.



The 1906 Genuine DeDion Spark Plug

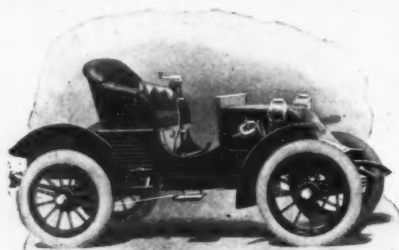
The above illustration shows the 1906 Genuine DeDion Plug. We have just received the first of these plugs that have been imported to this country.

Price. \$1.50 each, mailed to any address.

Charles E. Miller
Manufacturer, Jobber,
Exporter and Importer

Home Office
97-99-101 Reade St., New York City

Branches
Broadway and 38th St., New York 318-320 N. Broad St., Philadelphia
202-204 Columbus Ave., Boston, Mass. 406 Erie Street, Cleveland, Ohio



ADAMS-FARWELL

Has 3 and 5 Cylinder, Revolving, Air-cooled Motor.

One of our customers, using his car one season, writes Nov. 18, 1904, as follows:

"As far as I can see my car is in as perfect condition as it was before I started on this trip, and up to date I have been to expense for repairs just 60 cents, 50 cents for the platinum I procured of a dentist, and 10 cents for the work."

"I have failed so far to develop a weak point in the car; it certainly has a successfully air-cooled motor. I have run on the high gear and on the low gear under full compression for long periods, and have never found it necessary to stop to cool the engine; have had no premature ignition, and no other trouble except as above."

Highest Grade.

Bodies in Several Styles.

Horsepower 20-25 and 40-45.

Luxuriously Finished.

Send for Catalogue.

THE ADAMS COMPANY,

::

DUBUQUE, IOWA

MUD
FORGET IT AND USE
WEED'S TIRE GRIPS.
POSITIVELY STOPS SLIPPING OR SKIDDING.
THEY MAKE BAD ROADS GOOD.
WEED CHAIN TIRE GRIP CO.
SEND FOR BOOKLET "C"
28 MOORE ST.
NEW YORK CITY.

RADIATOR MONOGRAMS
ANY SIZE
ANY STYLE
ANY NUMBER OF LETTERS
Discounts to the Trade
\$6.00
S. D. CHILDS & COMPANY
200 Clark Street, CHICAGO

KIRK'S AMERICAN CROWN SOAP

Is a green soap, consistency of paste, a perfect cleanser for automobile machinery and all vehicles; will not injure the most highly polished surface. Made from pure vegetable oils. If your dealer does not carry AMERICAN CROWN SOAP in stock, send us his name and address and we will see that your wants are supplied.

Put up in 12 1-2, 25 and 50 lb Pails

JAMES S. KIRK & COMPANY
CHICAGO

WANTED

Manufacturers having just bought a large commercial motor vehicle works are extending operations and want

CAPABLE
REPRESENTATIVES
FOR EASTERN
TERRITORY

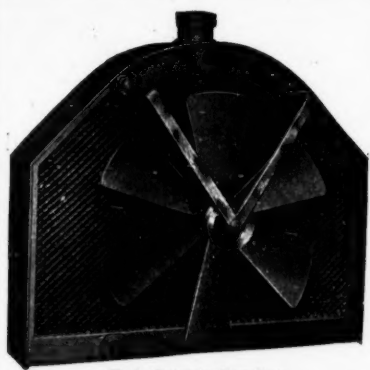
Also want suitable

PARTY TO GO ABROAD

Must become financially identified with the business.

Address

"COMMERCIAL"
CARE OF MOTOR AGE, CHICAGO



THE WHITLOCK COOLER

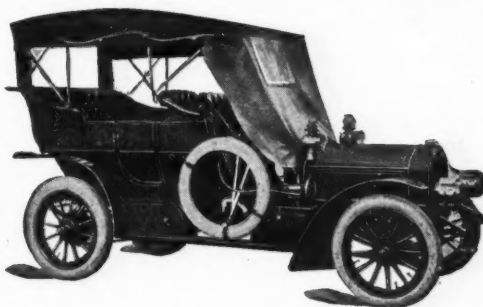
Tested and Adopted by
90 Per Cent
of the Leading
Manufacturers of
HIGH GRADE CARS
FOR 1903-1904-1905

U. S. Patents Pending.
Patented in England, France and Belgium.

Any Design or Style of Cooler Made to Order.

THE WHITLOCK COIL PIPE CO., HARTFORD, CONN.

CATALOGUE ON REQUEST



APPERSON BROS. KOKOMO INDIANA



Baldwin Standard Chains

are used
on all high grade cars
Made **DETACHABLE** or **RIVETED**
Send for Catalogue

We also make Sprockets of all kinds

BALDWIN CHAIN & MFG. CO.

Worcester, Mass.

PETERSON & DRAPER

166 Lake Street, Chicago, Ill.,
SALES-AGENTS



LATEST TYPE **WILLARD** LATEST TYPE

STORAGE BATTERIES

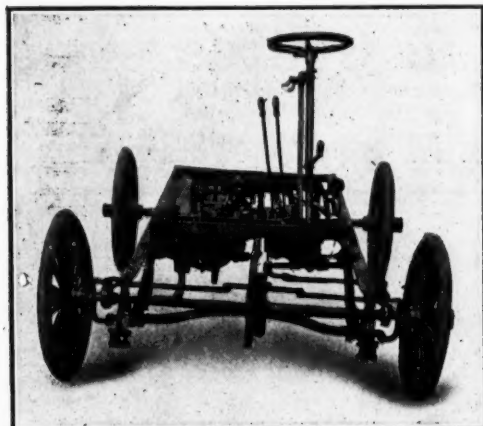
ARE OPERATING ELECTRIC
AUTOMOBILES REGULARLY

75 MILES AND OVER ON ONE CHARGE

WRITE FOR PARTICULARS

The Willard Storage Battery Company

Cleveland, Ohio



HALL'S PATENT FRONT DRIVE AND STEERING DEVICE
PATENTED OCTOBER 1, 1901

STOP pushing your Auto. Get FRONT DRIVE

which will **PULL** your automobile same as a team of horses.

Also does away with Sticking in the Mud or Skidding on Wet Streets.

Write for full particulars.

For Sale at
Beck & Corbett's Iron Co.
ST. LOUIS, MO.

Manufactured by
Auto Front Drive Mfg. Co.
2821 Easton Avenue
ST. LOUIS, MO.

ALUMINUM CASTINGS

**GUARANTEED
MAXIMUM
STRENGTH**



Grade
B For general machine casting, pinions, cog wheels, propeller screws, hydraulic press and pump barrels, piston rods, screw bolts for steam cylinder.
VERY TOUGH AND HARD.
S Bearing metal for bearings, thrust rings, slide valves, cross head jibs, piston rings, etc.
VERY HARD AND DURABLE, but cannot cut the journal.
In ordering Phosphor Bronze Castings note adaptation of the qualities above given.

**GUARANTEED
MINIMUM
WEIGHT**



LIGHT MFG. & FOUNDRY CO.

POTTSTOWN, PA.

SOLID SATISFACTION IN OWNING A Premier Portable Garage



This house 16x16 feet
Price, \$300.00 f. o. b. your station,
East of the Mississippi

**Unique and Attractive
in Outline
Solid and Roomy
Reasonable in Price
Prompt Shipments**

(Ample in size to turn the
largest touring car)

HOLLIS, PARK & POLLARD

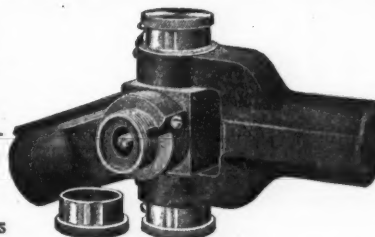
17 CANAL STREET
BOSTON, MASS.

Also manufacturers of camps, cottages, play houses and portable poultry houses

UNIVERSAL JOINTS

Hardened
Steel Bearings
Interchangeable

Taken apart
or put together
with the hands—
no tools needed
One filling of
Grease Cups
lasts 3,000 miles



Send for
Circular
showing other
Good Features
of the
**STRONGEST
and MOST
DURABLE
Joint made**

Manufacturers should have these joints on their 1906 models.

BLOOD BROS. AUTOMOBILE & MACHINE CO.
MANUFACTURERS KALAMAZOO, MICH.

STOLP COOLERS



Patents Pending

GOOD COOLERS

Stolp Mfg. Co.
CHICAGO

"PILE-BLOC" BATTERIES

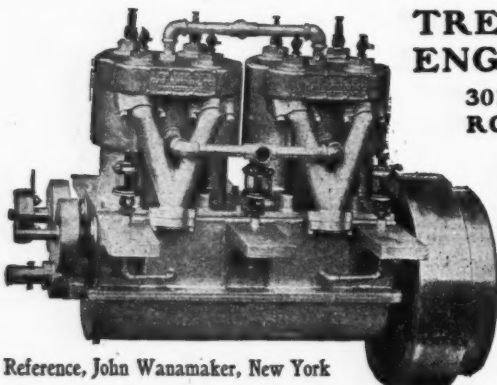
100 to 2000 Amp.-Hours



The "Pile-Bloc" Company

253 BROADWAY

The Original and Reliable



TREBERT GAS
ENGINE CO.

301 West Main St.
ROCHESTER, N. Y.

Up-to-date Engines, Transmission Gears and Clutches. Equal to the very latest French production; air and water-cooled motors. Air, 1 to 4 cyl., 2 to 15 h. p. Water-cooled Motors, 1 to 8 cyl., 10 to 45 h. p.

Reference, John Wanamaker, New York

Searchmont Cars Rebuilt

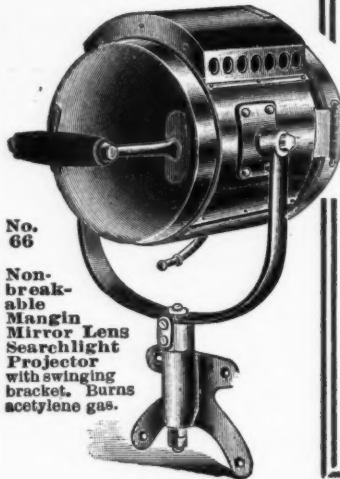
Double Service

Owners of automobiles or launches who use the **Apple Automatic Sparker** have no trouble with weak storage batteries or ignition faults of any kind.

With the **Apple Automatic Sparker** you can keep your storage batteries always charged and ready to give a strong, steady spark at all times. It is far ahead of any European Dynamo. Besides this, the **Apple Automatic Sparker** gives double service by giving ample power for three electric lights whether the engine is running or standing still.

We are Specialists in Ignition Apparatus. If you have ignition troubles of any sort, write us to-day.

The Dayton Electrical Mfg. Co.
75 Beaver Bldg. DAYTON, O.



No. 66

Non-breakable Mangin Mirror Lens Searchlight Projector with swinging bracket. Burns acetylene gas.

The Neverout

Mirror Lens Searchlight sets the style for beauty and gracefulness.

The new *Neverout* patent safety gas generator is also handsome and ornamental as well as safe and economical.

No gas confined under pressure, no danger of explosion, no flickering flame, no odor, no after-generation.

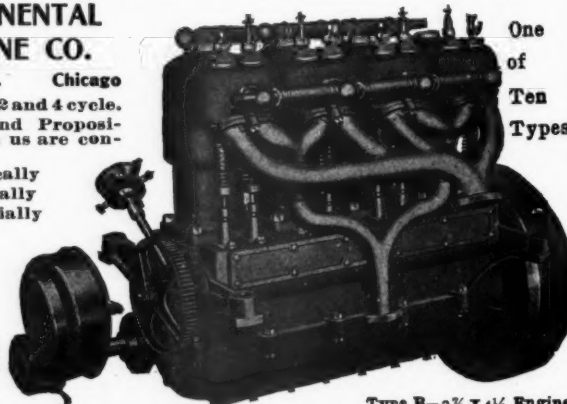
Write for free illustrated catalogue. ROSE MFG. CO., 912 Arch St., Philadelphia

MOTORS—All Commercial Sizes CONTINENTAL ENGINE CO.

Fisher Bldg. Chicago
1½-40 h.p. 2 and 4 cycle. Designs and Propositions from us are convincing.

Technically
Practically
Financially

Reverse Gears and Transmissions, Both Shaft and Chain Drive, Launch Fitting at cost. Write us.



One of Ten Types

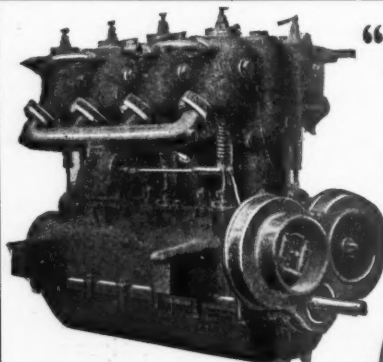
Type B-3½ x 4½ Engine.

Mud Guards Hoods and Forged Irons

"The Best Kind"

HAYES MFG. CO.

750 Bellevue Ave. Detroit, Mich.



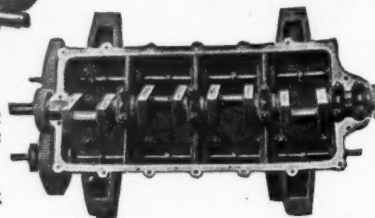
"Aster" Motors

From 1 to 60 H. P.

Automobile Motors
Marine Motors
Electric Groups
Stationary

Gas, Gasoline and Kerosene

A. J. MEYERS, Manager
Office, 1659 Broadway, New York



ACME MOTOR CARS

POSITIVE CONTROL—STARTING AND STOPPING ABSOLUTELY RELIABLE—GOING AND COMING

Without flourishes or fads Acme Motor Cars are the most widely developed and thoroughly practical made.

Are simplest in construction and easily accessible at any working point.

DEMONSTRATION IN TEN CITIES

ACME MOTOR CAR CO., Reading, Pa.

J. W. Mears, Brooklyn
Ensiga & Moore, Binghamton, N. Y.
Devlin & Co., Chicago
Southern Automobile Co., Atlanta, Ga.
T. C. Bradford, Wilmington, Del.
Boston Motor Co., Boston
Liberty Automobile Co., Pittsburg
Acme Motor Car Co., Philadelphia
Acme Motor Car Co. of N. Y.,
New York City



The Von Schwarz Acetylene Burners

SOME ADVANTAGES
They are recognized Standard Burners the World Over

Accurate in consumption. Free from carbonization and other troubles, and they are Licensed under Patent 589,342, August 31, 1897. This patent has been adjudicated by the U. S. Court of Appeal and is VALID. We advertise not only our burners, but also those firms who confine themselves to equip their lamps with Licensed Burners. Is there any reason why you should equip your lamps with cheap infringing imitations? Protect your customers as we do protect you.

For information and prices apply to

H. KIRCHBERGER & CO.

General Licensees

50 Warren Street : : New York

None Genuine Without
J v S
on Tip and Pillar

GILSEY HOUSE

UP-TOWN

Corner 29th and Broadway
New York

Rates \$1.50 up

Cafe a la carte

GEORGE W. MOORE, Manager

Patented
March 14, 1905



Gee!! What a Cinch!!

You have, if you are using the

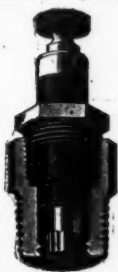
"Albright" Spark Plug

You are then in position to laugh at the other fellow who is having spark plug troubles

If you haven't the ALBRIGHT, better get one and stop "cussing." If your dealer hasn't them, send us his name and address. RE-MEMBER, there is no other "JUST AS GOOD." "ALBRIGHT"

"ALBRIGHT"

Patented
March 14, 1905

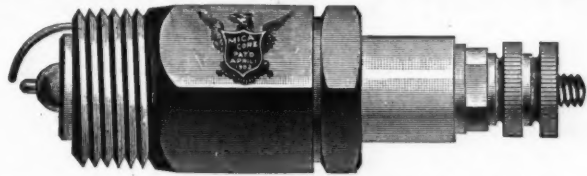


Camp Cycle Company

Manufacturers and Distributors

COLUMBUS, GEORGIA

AMERICAN Indestructible Sparking Plugs



Stand the Test where all others are Knocked Out of Business. Every one we sell brings us more business. This fact shows what they are. The Original and Only Double Insulated Pure Mica Core. All others are worthless imitations. Write for 1905 Catalogue

AMERICAN COIL COMPANY

P. O. Box 591

West Somerville, Mass.

AUTO SUPPLY CO., 1662 Broadway, New York Agents.

GEO. H. BILL, 305 Larkin Street, San Francisco, Cal.

STOP THAT NOISE!

NEW PROCESS PINIONS

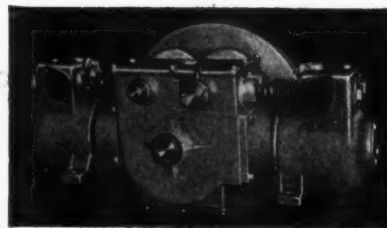
Will stop the racket made by your Time Gears, Pump Drive Gears or Igniter Gears, and will outwear all other kinds of Noiseless Pinions.

LET US HEAR FROM YOU.

THE NEW PROCESS RAW HIDE CO.

SYRACUSE, NEW YORK

25 H. P. Vertical 16 H. P. Opposed



**HIGH-CLASS
AUTOMOBILE
MOTORS**

THE A. STREIT MACHINE CO. CINCINNATI, O.

Standard Roller Bearing Company

MANUFACTURERS

**Steel Balls, Bronze Balls
and Brass Balls**

USE "HIGH DUTY" BALLS FOR AUTOMOBILES

Send for Catalogue of Ball Bearings, Roller Bearings and Automobile Axles.

Standard Roller Bearing Company, Philadelphia, Pa.

GRAY AND DAVIS LAMPS

ARE HIGH GRADE LAMPS

*Be sure YOUR CAR
is equipped with them.*

AMESBURY, MASS.

WELCH

As a man is known by the company he keeps, so is an automobilist known by the car he drives.

If you drive a Welch, you are distinguished by having the best and most carefully appointed car obtainable, either at home or abroad.

The Welch offers perfection of mechanism, ease of handling, luxurious equipment and speed.

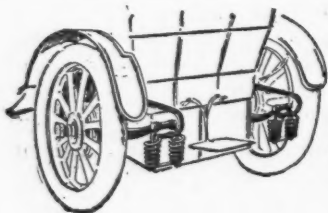
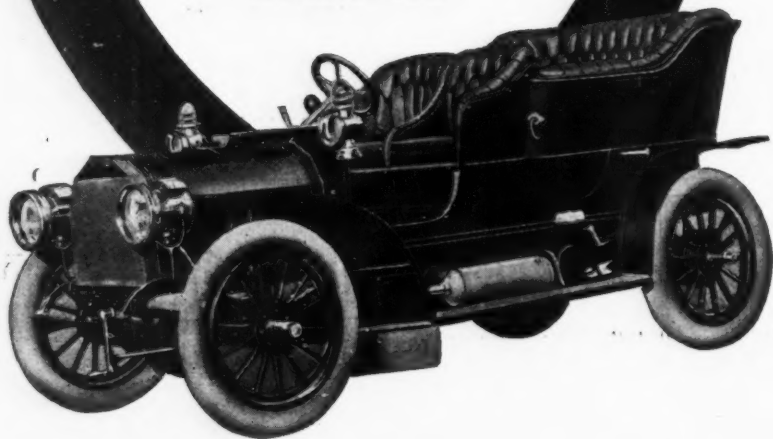
The wonderful Welch motor gives 30-36 h. p. Any speed desired on the direct drive, from 4 to 50 miles an hour.

We will send full particulars to any man who wants only the best car.

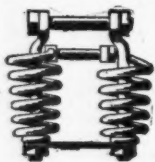
For further information address

WELCH MOTOR CAR CO.

Detroit and Pontiac, Mich.



Absorbs all vibration



The Supplementary Spiral Spring

No jolts or rebounds. Acts alike under light or heavy loads. Stands the test. Adds comfort and new delight to motoring. Saves engine, tires and springs. Costs but \$20 or \$25, according to weight of car. Will please you as it has hundreds of others. Write for circular today and state make and model of your car.

SUPPLEMENTARY SPIRAL SPRING CO.,
4527 Delmar Ave., St. Louis, Mo.



Voltage—
4, 6 and 8
Capacity—
20 Ampere
—Hours
Prices—\$5.00
\$9.00, \$12.00
Other Styles—
\$3.25 to \$32.00

Catalogues on Request

AMERICAN BATTERY COMPANY
165 South Clinton Street

Established 1889

CHICAGO, ILL.

WITHERBEE



Storage Batteries

**Are Guaranteed to Give Satisfaction
or Purchase Money will be Refunded**

With our economy recharging outfit you can recharge your batteries either in your home or office. Write for descriptive pamphlet.

FOR SALE BY THE LEADING JOBBERS

WITHERBEE IGNITER CO.

27 THAMES STREET

NEW YORK

THE "COAT OF MAIL" TIRE PROTECTOR

is an envelope of RUBBER and FABRIC (same as a tire itself), that completely covers the tire. It fits like a glove. Its tread is covered with an armor of small steel plates, held in place by steel rivets.

It is **ABSOLUTELY UNPUNCTURABLE**—a sure non-skid—saves ALL wear and tear from the tire—saves at least two-thirds the tire expense—saves all repairs—cannot pull off.

Makes old tires practically new. Makes all tires unpuncturable and everlasting. Drop us a postal and we will explain and prove these points.

POST MFG. CO.

Rutherford, N. J.

SPRINGFIELD TOPS

2, 4 and 5 Bow

Aluminum Bodies

**Springfield
Metal Body Co.**

372 Birnie Ave
Brightwood

SPRINGFIELD, MASS.



"ATWOOD STAY-LIT" LAMPS ARE THE BEST

ATWOOD MFG. CO., Makers
Send for Catalogue Amesbury, Mass.

HARRIS OILS....

Ask your dealer for this brand and do not let him argue about it; just insist on having it, for no other is better.

A. W. HARRIS OIL CO., ³⁴⁵ South Water St. Providence, R. I.
TATUM & BOWEN, 36 Fremont St., San Francisco, Cal., Pacific Coast Agents

EVERY CAR SHOULD BE EQUIPPED WITH The Wilson Auto Clock

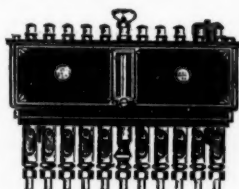


TELLS
TIME
RIGHT
DAY
AND
NIGHT

By day, the large figures can be plainly seen from the seat. A slight pressure of the button illuminates the face at night, producing enough light for various purposes on the road, as well as to "tell the time."
Handsome compact case of highly polished brass, containing famous Elgin works—7 jeweled movement... **\$15**
15 jewels, \$25.00.

Wilson Auto Clock Co., Inc.
935 ARCH ST., PHILA.

A Lubricator for Any Car, Any System



An automatic Pressure Feed Oiler, instantly converted into GRAVITY FEED. Each Sight Feed in itself an Automatic Pump, equally well used with any system of lubrication.
Made with any number of feeds. Write for circular.
Manufactured by

J. T. PEDERSEN
642-644 First Ave., N. Y.

Patent Pending

THE "SPRINGFIELD" JACK

A combination of Strength, Safety and Simplicity.

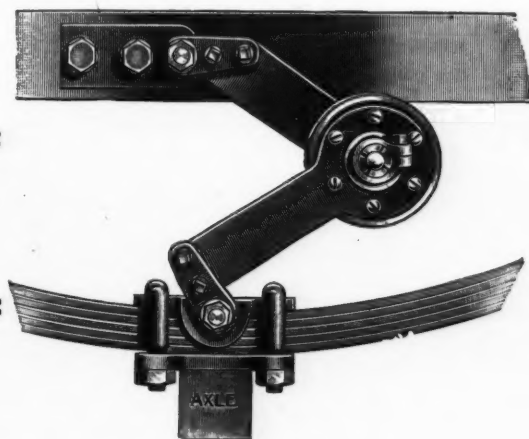
Actual lifting capacity, 2,500 lbs.

It is made in one size only.
It is convenient for a Runabout.
It is convenient for a Touring Car.
It is easily operated.
It is powerful.
It is light—only weighs 4 pounds.
It is rattle proof.
It is warranted.
It is delivered to any part of the United States for \$2.25.

THE SHAWVER CO.
Springfield, Ohio
E.J. Day & Co., Pacific Coast Agents, San Francisco.



Cars Under
1500 lbs.
\$40
(4 suspensions)



Cars Over
1500 lbs.
\$60
(4 suspensions)

"The first four cars in the International race for the Gordon-Bennett cup at Auvergne were ALL equipped with the Hartford Suspension, and only 24 minutes separated them at the finish. The fifth car was one hour behind the leader and was NOT equipped with the Hartford Suspension. This victory over the picked cars of every nation, and run over the most difficult course in the world, is only one more proof of the practical qualities of this wonderful invention."

HARTFORD SUSPENSION CO.

Edward V. Hartford, President

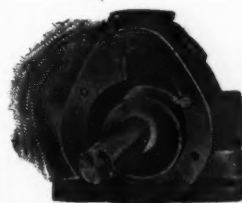
69 Vestry St., New York City

No Automobile Owner Should
Be Without a Copy of

MOTOR AGE

Every Week. It gives all the
news of the Automobile Trade,
Sport and Industry.

Subscription \$2 A Year



**Automobile
Pumps**
UPTON MOTOR CO.
Lohan, Pa.
Write for Circulars.

PAT. APPLIED FOR

RHODES CLINCHER TIRE REMOVER

Pat. Pending)
The most necessary automobile tool on the market. Adjustable to any size tire. Finely nickel plated. Price \$2.00 postpaid.



427 W. Bridge St. RHODES MFG. CO. Grand Rapids, Mich.



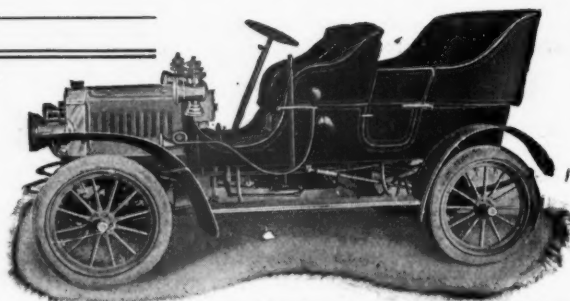
FAWKES TIRES

ORDER THEM AND SECURE AN ABSOLUTE SOLUTION OF YOUR TIRE TROUBLES. WRITE FACTORY.

THE MILWAUKEE RUBBER WORKS CO.
CUDAHY (SUBURB OF MILWAUKEE) WISCONSIN

"BEST FOR THE PRICE"**PIERCE-RACINE****FOUR MODELS: \$750, \$850, \$1100, \$1250**ONE LEVER CONTROL LONG WHEEL BASE FULL ELLIPTIC SPRINGS
EASY RIDING FAST AND GREAT HILL CLIMBER**PIERCE ENGINE CO., BOX 175 Racine, Wis.**

WRITE FOR CATALOG

Best Car
in the
world at
the price.**Model C, \$1250**
JACKSON
2 Opposed Cylinders
18 Actual H. P.

Member American Motor Car Manufacturers' Association.

CHICAGO AGENTS
HAGMANN & HAMMERLY
1077 W. Harrison StreetMade at Jackson, Mich.,
by the
JACKSON AUTOMOBILE CO.
SEND FOR CATALOGUE

SHELBY SEAMLESS-STEEL-TUBING
BEST MADE FOR
AUTOMOBILE CONSTRUCTION.
SEND SPECIFICATIONS
WE QUOTE PRICES
SHELBY STEEL TUBE CO.
PITTSBURG, PA.
BRANCH OFFICES - NEW YORK - CHICAGO.

Rajah
SPARK PLUGS

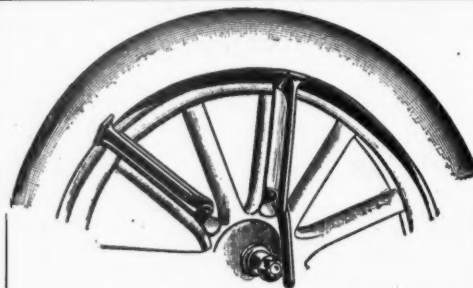
The Most Reliable

IGNITION
ABSOLUTELY
SUREPrice, Postpaid
\$2.00**RAJAH AUTO SUPPLY CO., 140 Washington Street, New York****EXCLUSIVE
PRIVILEGE
To DEALERS**

Write us for full particulars regarding

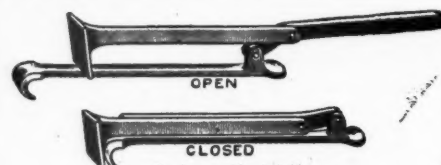
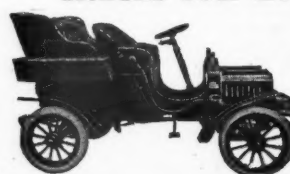
**ELASTIC
GUM** The greatest
tire filling suc-
cess now in use**PULLMAN AUTO CAR CO.**
5035 Cottage Grove Avenue CHICAGO**CHICAGO &
ALTON
RAILWAY****"THE ONLY WAY"****THE CHICAGO & ALTON**
runs the largest passenger engines
in the world

They keep the trains on time

Between Chicago,
St. Louis,
Kansas City and
Peoria**GEO. J. CHARLTON, General Passenger Agent**
CHICAGO, ILL.**The Morrill Tire Jack**

Is a necessity, comfort and luxury to every owner and driver of an automobile; can be used to put on tires of any size, requires little strength in its operation, and develops the greatest leverage where needed, i. e., when pushing the tire casing over the edge of rim of wheel.

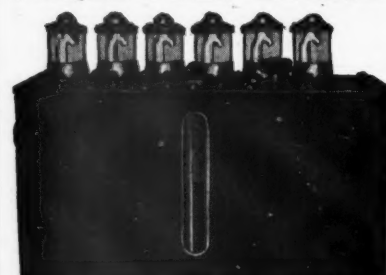
The Jacks fold to occupy very little space and are put up in neat substantial box.

Send for Price List to
W. J. ELLIOTT & COMPANY
185 Franklin St., Boston, Mass.**Rebuild Your Model "A"****Cadillac and Ford**

We furnish the outfit complete and you can make the change in one day. Send for booklet and photo.

Auto Rebuilding Co.
215 N. Alabama St.
INDIANAPOLIS, IND.**Jump Spark Coils**

For all purposes - Single, Double, Triple and Quadruple, for Stationary Engines and Automobiles. Guaranteed in every particular. Fine Vibrator. Send for Catalogue K.

The Knoblock-Heldeman Mfg. Co.
SOUTH BEND, IND.**FORCE FEED LUBRICATION**Constant
Sight
Feed
No
Liquids**McLORD & CO., 1402-80 Old Colony Building CHICAGO****E. J. Day & Co., Pacific Coast Distributors,**
324-326 Golden Gate Ave., San Francisco, Cal.

If you want the agency for a \$2,500 car to sell at \$1,250, write today for the most attractive proposition in America.

Wayne Automobile Co., Dept. H.
Detroit, Mich.

THE "Exide" BATTERY FOR ELECTRIC VEHICLES

DEPOTS FOR THE PROMPT
DELIVERY AND CARE OF
EXIDE BATTERIES

NEW YORK, 40th St. and 8th Ave.
BOSTON, 35 Stanhope St.
ST. LOUIS, 800 Walnut St.
PITTSBURGH, 5905 Centre Ave.
PHILADELPHIA, 250 North Broad St.
PORTLAND, ORE., 140 Fifth St., No.

BUFFALO, 200 Pearl St.
DETROIT, 205 Jefferson Ave.
SAN FRANCISCO, 635 Howard St.
CHICAGO, 294 East Lake St.
ST. PAUL, 873 Minnesota St.
ROCHESTER, 158 South Ave.

TOLEDO, 225 Ontario Street.
DENVER, 1449 Clarkson St.
CLEVELAND, 404 Huron St.
SAVANNAH, 309 Bull St.
PASADENA, 38 South Raymond Ave.
MINNEAPOLIS, 3rd Ave. So. and 5th St.

THE ELECTRIC STORAGE BATTERY CO. Philadelphia, Pa.

SALES OFFICES: New York, Boston, Chicago, St. Louis, Cleveland, San Francisco, Toronto, Canada.



STA-RITE
"STANDARD" TYPE

DEALERS

Do not buy spark plugs of
half a dozen concerns, it isn't
necessary.

Condense Your Orders

thus obtaining lower prices,
and use "Sta-Rites" exclu-
sively. 46 different sizes and
styles. Porcelain and Mica.
75c to \$4.00. Secure July, 1905,
price list.

The R. E. Hardy Co.

225 West Broadway, N. Y.

P. J. DASEY

431 Wabash Ave., Chicago



No. 4, 7/8-in.
Porcelain, \$1.50

No. 34, 1/2-in.
Mica, \$1.75

OLD Tires NEW
New Tires Made Puncture-Proof

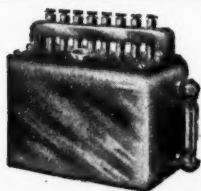
NEWMASTIC FILLING

For Clincher and Single Tubes

Just as Resilient as a Pneumatic
Just as Safe as a Solid Tire
How Do We Do It?
Write Us and Learn

NEWMASTIC TIRE CO.

3970 Olive St., ST. LOUIS, MO. 1303 Michigan Ave., CHICAGO, ILL.
Chicago Phone, South 1301



Our New Power Driven
Sight Feed
Mechanical Oiler

Write for catalogue
and prices.

Auto Brass & Aluminum Co.
Main Office and Works: Flint, Mich.



ROBERT VOLT-AMMETER

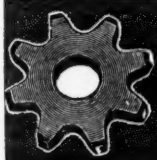
For General Battery Testing—Guaranteed.
Tests both Volts and Amperes.

3-VOLTS 10-VOLTS
30-AMPERES 30-AMPERES

Send for Catalogue.

Robert Instrument Co.

63 Shelby St., Detroit, Mich.



SPROCKETS

Chains and Differentials

CULLMAN WHEEL CO.

1021 Dunning Street :: CHICAGO, ILL.

ALUMINUM

Aluminum

Automobile

Parts a Specialty

The Pittsburgh Reduction Company
Pittsburgh, Pa.

HOT SPRINGS, ARK.

Only 20½ Hours from Chicago

VIA THE

WABASH

You can leave Chicago daily at
11:30 A. M., on the

BANNER BLUE LIMITED

the finest train on earth, and
connect in Union Station, St.
Louis, with the Hot Springs
Special on the Iron Mountain,
reaching Hot Springs next
morning at 8 o'clock.

Write for free Booklet telling
all about this popular health
and pleasure resort.

**Ticket Office, 97 Adams St.
CHICAGO**

C. S. CRANE, F. A. PALMER,
G. P. & T. A., St. Louis. A. G. P. A. Chicago.



PACKARD ENAMELED IGNITION CABLES

NEVER DISAPPOINT

They are giving entire satisfaction to over one hundred
high-class automobile manufacturers. Will you
permit us to convince you of their worth?

PROOF AGAINST HEAT, GREASE, OILS and WATER

THE PACKARD ELECTRIC COMPANY

WARREN, OHIO, U. S. A.

Special Design—Finest Quality—Built to Order

BODIES and TOPS

C. P. KIMBALL & CO.

315 Michigan Ave., - - Chicago

CHICAGO AUTO AGENCIES

Pardee-Ullmann Co.

AGENTS FOR

Packard...White...Baker Electric

Orders now being taken for

1906 Side Entrance White

CARS FOR RENT

1218-1220 Michigan Avenue

Phone 557 South CHICAGO, ILL.

THE McDUFFEE AUTOMOBILE CO.

Distributors for

STODDARD-DAYTON

WAYNE and BUFFALO

ELECTRIC Automobiles

Telephone South 1297

1449
Michigan
Avenue
CHICAGOCadillac Automobile Co. of Illinois
1312 Michigan Avenue, Chicago

CADILLAC

Four Cylinder, High Power Touring Car

LIGHT TOURING CARS RUNABOUTS DELIVERY

C.A. COEY & CO. Illinois and Eastern
Iowa Agents for the

Thomas Flyer

Always on hand—Bargains in New and Used Cars of
all descriptions :: :: :: PHONE, SOUTH 1042
1323-1325 Michigan Avenue :: ChicagoBENZ & CO. MANNHEIM, GERMANY
ESTABLISHED IN 1881

THE OLDEST AUTOMOBILE MAKER IN THE WORLD

FIRST CAR PATENTED JANUARY 29, 1886

OVER 4,000 NOW IN SUCCESSFUL OPERATION

Prices, \$3,500 to \$15,000

ALL CARS IMPORTED COMPLETE (LESS TIRES)

IMMEDIATE DELIVERY

EXCLUSIVE AGENTS FOR U. S.
MEAD CYCLE CO., CHICAGO

TIRE REPAIRS

ALL MAKES AND TYPES
GIVEN EQUAL ATTENTION

CORRESPONDENCE SOLICITED

RUBBER GOODS REPAIR CO., 89 16th St., CHICAGO

PHONE SOUTH 1280

LAMBERT Friction-Drive
AUTOMOBILES

12-16-32 h. p., \$1000 to \$2000

WRITE FOR CATALOGUE

ADLAND MOTOR CO.

1303 Michigan Ave., CHICAGO

OLDSMOBILE

Agents and Distributors for Illinois and Wisconsin

THE GITHENS BROS. CO.

1328 Michigan Ave., Chicago.

Telephone, South 1658

POPE

-TOLEDO
-HARTFORD
-TRIBUNE
-WAVERLY

ORLANDO F. WEBER CO.

(INCORPORATED)

Distributors for

CHICAGO and MILWAUKEE

1322-26 Michigan Ave. 321-25 Fourth St.
Phone 1099 South Phone 2781 Main

EVERYTHING IN
AUTO
SUPPLIES
FOR OWNER AND DEALER

SEND FOR CATALOGUE No. 49

EXCELSIOR SUPPLY CO.
ESTABLISHED 1876 CHICAGO.

Kenwood Auto Station

5035 Cottage Grove Ave. Phone Oakland 507

FINEST GARAGE IN CHICAGO

Most Careful and Proficient Chauffeurs

Best Appearing Cars and Most of Them

Cars sent to any address in any

part of the city on order.

USE THE TELEPHONE Telephone Oakland 507

The Importers' Company

AGENTS FOR

..Richard-Brazier Cars..

1400 Michigan Avenue, Chicago

REO 2 Cylinder 16 H.P.
\$1250
8 H. P. Runabout
\$650

THAT HILL CLIMBING CAR

1323 Michigan Ave. Open Sundays & Evenings
Phone South 1090

BOSTON AUTO AGENCY

BOSTON ELMORE AGENCY

E. S. Breed, 41 Columbus Ave., Boston

The two-cycle no longer a theory but a fact,
only three moving parts. On account of suc-
cess of the Elmore, well known manufact-
urers are now designing two-cycle engines.

PHILADELPHIA AUTO AGENCY

QUAKER CITY AUTOMOBILE CO.

138 to 146 North Broad St., PHILADELPHIA

OLDSMOBILE } REPRESENTING: { WHITE

FRANKLIN } { POPE-TOLEDO

The finest fireproof garage and the best equip-
ped machine shop in the state. Tourists will
find excellent storage and courteous attention.

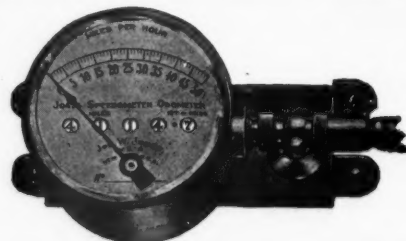
ROCHESTER AUTO AGENCY

United States Automobile Co.

The largest garage and best equipped
machine shop in New York State.
Special attention given tourists night
or day. Agents forThomas Flyer Stevens-Duryea Orient
Pierce-Arrow Oldsmobile BuickTHE
SPEEDOMETER

NINE TO ONE

POSSESSION, they say, is nine points in law. The possession of a Jones Speedometer is not a deviation from this rule. In court the testimony of this instrument is accepted. Nine points for the Speedometer; one point for the policeman's stop watch. Write for one of our Protection Tags if you have our instrument.

JONES SPEEDOMETER, 121 West 32d Street
NEW YORKU. S. JACK GUARANTEED
IN EVERY WAY.

Will lift any car up to 6,000 lbs. with 24 to 34 in. wheels. Has double threaded one-inch screw. Works quickly and is a MODEL OF SIMPLICITY. We sell to the trade only.

THE U. S. JACK CO.

352 S. Claremont Ave.
CHICAGO.The IGNITION PROBLEM IS SOLVED
in the "Lacoste" High Tension
Magneto for Jump Spark Ignition

We guarantee this device to be ABSOLUTELY PERFECT.

We have done the experimenting.

NO BATTERIES. NO COIL. NO COMMUTATOR.

Everything for Electrical Ignition.

LEON RUBAY, Sole U. S. Agents, 140 W. 38th St., N. Y.

1905 YANKEE GRADE METER. Price \$7.50.

This Grade Meter is the handsomest article of its kind on the market, and is positively accurate. No vibration of the indicating hand.

YANKEE MICA SPARK PLUG. Price \$1.50.

Double Insulation, Compression End, Rigid Points, most reliable and popular Plug on the market. 40,000 sold last year. Guaranteed 90 days.

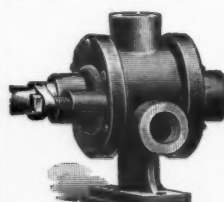
Everything for the Automobile. Mammoth catalog for 10 cents in stamps.

E. J. WILLIS CO., 7 Park Place, New York.

Bestogo Storage Battery

Essentially different from
other Lead Batteries

SEND FOR CATALOG

Miller Signal Co., 302 JACKSON BOULEVARD,
CHICAGO

LOBEE ROTARY PUMP

4000 in use demonstrating its efficiency with all types of radiators for circulating water or oil in gasoline motors.

LOBEE PUMP CO.,

240 Terrace, - Buffalo, N. Y.

C. E. MILLER, Agent.

97 Reade Street. - New York

A. L. Dyke Automobile Supply Company, 4703 Olive St.,
St. Louis, Mo.

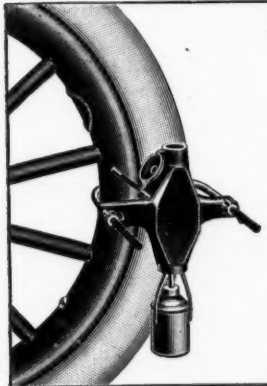
Good Subscription Solicitors Wanted
by Motor Age
Liberal Proposition

WHY LUBRICATE THE ROADS?

NON-FLUID OILS

Do not leak from gear cases or bearings like fluid oils, nor soften up and melt like tallow greases. Ask your dealer or write us for free sample, prepaid.

N. Y. & N. J. Lubricant Co. 14 Church St., New York
79 Ninth St., San Francisco

**ANYBODY CAN USE IT.**

Those cement patches are constantly coming off this hot weather. Our Vulcanizers not only make patches stay, but will mend cuts and holes in outer casings of auto tires good as new.

GUARANTEED

Let us tell you.
"STITCH-IN-TIME"
VULCANIZER CO.

Topeka, Kan., U.S.A.

Special Prices on Clincher Tires FOR SEPTEMBER

One of the best tires on the market. We are on the inside.

	Casing	Inner Tube
28x2½	\$13.94	\$3.84
28x3	22.80	4.64
30x3	24.40	4.96
30x3½	31.69	7.04
32x3½	33.75	7.52
32x4	38.93	9.09

We can supply other sizes at proportionate prices.

Neustadt Automobile & Supply Co.
826-28-30 S. 18th St. ST. LOUIS, MO.

E. F. LESTER, Mfr.



FAYETTEVILLE, N. Y.

St. Louis 18-22 Actual H. P.
30-34



"RIGS THAT RUN"—We Make Them
ST. LOUIS MOTOR CARRIAGE CO.
1211 to 1219 Vandeventer Av., St. Louis, Mo.

CANDY CARBIDE

For FRENCH AUTO LAMPS (Impregnation dens le vide)

Packed only in 10 lb. cans. Price \$2 each.
Discount to dealers in case lot of 12 cans.

SOLE MANUFACTURERS

ACETYLENE GAS ILLUMINATING CO.
105 WALKER STREET NEW YORK

BOWSER GASOLINE TANKS

We manufacture Gasoline Storage Outfits—all kinds. Self-measuring Outfits for Garages; smaller, less expensive ones for private automobiles. It will pay you to investigate our

Long Distance Gasoline Storage System

"Tank buried—Pump located in building"

Over a dozen styles from which to select. Ask for catalog
S. F. BOWSER & CO., Inc., XV Fort Wayne, Ind

Gilbert Auto Fabric Supplies

Original and Best

Tire Casings, colors to match cars.

Price,
28 or 30 in., \$4.00
32-34-36 " 4.50

Everything in rubber supplies, storm aprons, tool rolls, covers, protectors of every kind. For sale at leading supply houses and dealers. Look for the name Gilbert, don't accept imitations. Catalog sent on request.

GILBERT MFG. CO.

NEW HAVEN, CONN.

T
O
P
STHE
LONDONT
O
P
S

Are now made in our NEW FACTORY
1229-1231 Michigan Ave.

LONDON AUTO SUPPLY CO.

CHICAGO

Lamp Covers

Slip Covers

Tire Covers

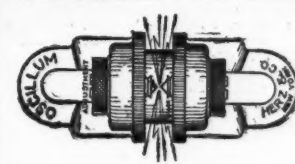
Want to Buy Good Four-Cylinder Engine Works

Engine suitable for
Commercial Purposes

Must be A1 in
Every Particular

Address "BUYER,"

Motor Age, Chicago

OSCILLUM REDIVIVUS

A spark intensifier and spark indicator. It makes every spark plug spark, no matter how fouled and sooted. Unbreakable, all metal and glass. Price, \$1; dashboard type, \$1.50.

HERZ & CO. Civ. Eng.
187 Elm St., New York
Makers of the Herz-timer.

RUTENBER GASOLINE GAUGE

is simpler in construction than any other gauge offered. No tape floats or magnetic arrangement to get out of order. Every Gasoline Automobile or Motor Boat should have one. Agents wanted—special inducement for hustlers

RUTENBER CO.
226 East 52d Street
CHICAGO

MOTOR CAR SPECIALTIES and SUNDRIES

WE SELL EVERYTHING
WRITE FOR CATALOG

THE AUTOMOBILE EQUIPMENT CO.
252 Jefferson Ave. DETROIT, MICH.

VENUS METAL POLISH

Does the work

... ..
A trial will convince you

Cleans quicker will hold the luster longer than any other polish.

Sold by all the leading dealers.

The Mexican Mfg. Co., Wichita, Kansas

All Leading Automobile Manufacturers Use this Cushion Spring

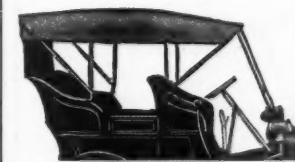
Ask for Samples and Prices.

National Spring & Wire Company, Albion, Mich.

**Diamond Chains**

Our chains outwear all others. Replace your worn out chain with a "Diamond," which fits any standard sprocket.

Diamond Chain & Mfg. Co., Indianapolis

**ECLIPSE TOPS**

LOOK BETTER
WEAR BETTER
MADE BETTER
ARE BETTER
than any others.

It's an old story with us. We have been making good tops practically all our business lives.

Write for catalogue.
Eclipse Buggy & Mfg. Co., Fort Wayne, Ind.



THE WHITNEY MFG. CO., Hartford, Conn.

You will notice

"WHITNEY" CHAINS

on most of the Leading Cars.

The Bank President says:

New Hampshire National Bank,
Calvin Page, Pres. W. C. Walton, Cashier.
Portsmouth, N. H. July 28th, 1905.

Messrs. Herz & Co., New York City.

Dear Sirs:—I am pleased to acknowledge the receipt of your Herz Timer and enclose check to pay for same. It is the best investment I ever made and I would not take any amount for it if I could not obtain another. It goes far beyond my expectations and I would not think that I was riding in the same machine as before. I wish every automobile owner who is suffering from a poor commutator could know about it.

Fortunately, one of your circulars came into my possession last Sunday and I wrote you asking if your spark timer would fit my Autocar, and if so forward one to me. I received it on Wednesday but did not put it on my machine until Thursday. On Wednesday I was "skipping" about the country here with trouble with the commutator, which required cleaning every ten minutes, and consumed as much as a gallon of gasoline for every five miles traveled. On Thursday, which was yesterday, after putting on your spark timer I traveled in about two hours over a rough, hilly and sandy road about forty miles, without a skip, and consumed not over two gallons of gasoline; so that I will save this season in gasoline alone many times the amount of the check I send you.

It does not seem possible that there should be such a difference in spark timers, and if this one of yours will operate as well on any machine as it does on my Autocar, everybody ought to know about it.

Yours very respectfully,

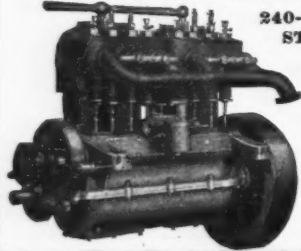
CALVIN PAGE.

HERZ & CO., 187 Elm St., N.Y., makers of the Herz Timer

CONTINENTAL MOTORS

Transmissions, Clutches, Carburetors, and Accessories are manufactured and sold only by
CONTINENTAL MOTOR MFG. CO.

Formerly AUTOCAR EQUIPMENT CO.



240-244 W. LAKE ST., CHICAGO

BEWARE OF IMITATIONS

Also Marine Reverse Gears and Propellers. Send for Catalog.

PETERSON & DRAPER, Direct Factory Representatives.

CHAIN TOOL
35c
THE HUSKY KIND
SENT PREPAID FOR 45c
THE MOTOR CAR SUPPLY CO.
1427 MICHIGAN AVENUE CHICAGO, ILL.

A PLEASURE TO HEAR THE GABRIEL HORN

Something New and Sensible for Automobiles, Auto Boats and Launches



Blows a full, strong blast from exhaust from gasoline engine; or can be attached to steam, same as ordinary whistle; blows with less than one pound pressure.

Each horn is tuned to a musical key—no discordant screeching note—is easily blown, and is strong and durable.

Comes in three styles—single, two or three horns. Write today for Catalogue, giving prices and full information.

GABRIEL HORN AND MANUFACTURING CO.
897 Caxton Building CLEVELAND
New York Branch, 148 West 56th St.

Lists of Auto Dealers and Owners

Verified list of 4,800 auto dealers in U. S.
Verified list of 60,000 auto owners in U. S. Also tells make of machine. No duplicates. Names arranged alphabetically by towns. New names published weekly. Postage guaranteed.
For full information address

Auto Directories Co., 108 Fulton St. N. Y.
Established 1891.

THE CLASSIFIED ADVERTISEMENTS

IN THE

MOTOR AGE

PRODUCE RESULTS

An AUTO Bargain

A 4-cylinder 1905 MODEL DEMONSTRATING CAR in excellent condition for sale at a low price. Has had very little use. Full equipment.

Write for particulars. Send for our Catalog of Supplies.

A. L. Dyke Auto Supply Co.

Walton & Olive Streets,

ST. LOUIS, MO.

MISCELLANEOUS.

Advertisements under this head 3 cents per word first insertion; 2 cents per word for each insertion thereafter. Ads set in any style other than regular setting, 24 cents a line first insertion, 16 cents a line for each insertion thereafter.

Special rates for continuous advertising in these columns upon application.

IF YOU WANT to exchange your automobile for a farm or fruit lands in the great fruit belt of Missouri, write Col. John Halstead, West Plains, Mo.

FOR SALE—White steamer in good condition, \$850 if taken at once. Address R., MOTOR AGE.

AUTOMOBILE PLANT FOR SALE.

This is a new plant used about one year. The buildings are brick and steel construction, with slate roofs. The main building is 400 feet long, equipped with more than 100 machine tools, including 13 milling machines, 15 upright drills, 23 engine lathes, universal grinders, turret lathes, screw machines, 60 vises, complete nickel-plating and polishing outfit, etc. Power plant consists of Corliss engine and battery of boilers. Plant is lighted by electricity and heated by Sturtevant system. Has independent telephone system. Smith shop is equipped with power hammer, drop hammer, forges, etc. Switch into plant connects with three trunk lines. Shipping facilities unexcelled. Large office and draughting room, with complete equipment. Warehouse separate from main building. This plant is well located in western Pennsylvania and can be started up immediately. This property represents an investment of more than \$200,000.00. We offer it for about one-third its cost, on reasonable terms. The machinery is new, used less than one year, and this is a real bargain. Full particulars on application.

WM. A. READE & Co.,
402 Chamber of Commerce,
Cleveland, Ohio.

Automobile Apparel

For Men and Women

Ours is the greatest and most exhaustive collection of automobile garments of cloth, silk, rubber, linen, mercerized fabrics, rubberized fabrics and leather in all the world. Together with an extensive series of our patented garments, we maintain a complete series of models designed by

O. Strom et Fils, Paris, France.
La Belle Jardiniere, Paris, France.
Oscar Henriques, Copenhagen.
Alfred Dunhill, London, England.

"We Provide Everything for the Autoist but the Auto."

The New Catalogue Z of Spring and Summer Garments is Ready. Please ask for it

Saks & Company Broadway, 33d to 34th Streets NEW YORK



BIG BARGAIN—1905 30-35 H. P. Peerless, almost new, with following equipment: Cart cape top, plate glass front, two 8" searchlights, generator, two side lamps, tail lamp, speedometer, odometer, Dash tire pump, 8-day clock, tire chains, one extra casing, 2 inner tubes, storage batteries, rubber bucket and full set of tools; car cost \$4,700; in fine condition; will guarantee; goes at \$2,500; no trade. Keller-Needham Auto Co., Decatur, Ill.

FOR SALE—Double cylinder 1904 Model Rambler with tonneau, five lamps and generator, extra casings and tubes; in first class condition. Will trade for four-cylinder touring car. G. L., care MOTOR AGE.

FOR SALE—One 1905 Autocar, 12 H. P., tonneau car, new from factory two weeks ago; full equipment, lamps, horn, etc.; guaranteed in perfect condition; cost \$1,480; am moving to California; \$1,225 takes it. Dr. F. R. Weston, La Crosse, Wis.

FOR SALE—A number of second hand autos in first class condition. A. H. Ekbergh, 907 Nicollet Ave., Minneapolis, Minn.

WANTED—Single cylinder car for double cylinder car with top. J. C. Cleaveland, Storm Lake, Ia.

FORTY ACRES OF LAND to trade for second hand automobile. Beede, Meckling, S. D.

FOR SALE—A 5 H. P. Holly runabout in good running condition for best reasonable offer. Address E. E. Buchman, 15 Goodrich St., Akron, O.

KINGSTON CARBURETORS, 1905 model, 1" inlet, absolutely new; \$4.75 each. Cash with order. Holley Bros. Co., 661-673 Beaubien St., Detroit, Mich.

WANTED—Position as chauffeur; am machinist by trade; have worked on autos for two years; best of references. Thos. T. Bishop, 523 College Ave., Racine, Wis.

FOR SALE—Cheap, 1904 White touring car; has canopy top, plate glass front, acetylene lamps, baskets and odometer; is in first class condition in every way. Address P. O. Box 21, Cedar Rapids, Iowa.

FOR SALE—Two 1904 Whites, have canopy tops, baskets and searchlights; prices \$950 and \$1,150. 1904 Model K Rambler, two cylinder, 16 h. p., price \$700; 1904, Model H, Rambler, price \$475; all as good as new. Geo. J. Donahue Campello, Brockton, Mass.

FOR SALE—Model F Cadillac touring car; used 3 months in city; car is as good as new; owner needs money more than car; will sell for \$750. Cad, care MOTOR AGE.

FOR SALE—2 cy. 20 H. P. Winton, with extension cape top and glass front; an exceptional bargain. H. G. M., care MOTOR AGE.

FOR SALE—1905 Cadillac, Model E, runabout; \$625; used very little and guaranteed equal to new; lamps and horn that cost \$35 included. Address 4, care MOTOR AGE.

WANTED—Experienced automobile draftsman. Box 1, care of MOTOR AGE.

FOR SALE OR EXCHANGE—Twelve passenger brake, in good order, two beds, one canopy top passenger, one closed vestibule delivery bed; block and tackle for changing bed; takes ten minutes; will sell or exchange for good private car. L. H. Ramsey, Box 426, Lexington, Ky.

WANTED—Second hand Gabriel horn and Rushmore searchlight. Address F. E. P., 359 Main St., Stoneham, Mass.

WANTED—Position as salesman selling accessories; understand automobiles; four years' experience as traveling salesman. A. W. A., care MOTOR AGE.

FOR SALE—Automobile parts cheap; 5 H. P. Holly motor; 7 H. P. two-cylinder, air-cooled motor; running gear; body, radiator, transmission, etc. W. Harwood, Plano, Ill.

FOR SALE—Will sell cheap, brand new 28x3 G & J tire, complete. Address W., care MOTOR AGE.

FOR SALE—3-cylinder 20 H. P. 1903 Pope-Toledo touring car; 32x4" G & J tires, new this spring; extra tire and full equipment, gas lamps, horn and tools; car is in first class shape; owner has other cars and will sacrifice; price \$850, cost \$3,000. J. L. Murray, 215 S. Main, Bloomington, Ill.

FOR SALE—One 4-passenger car, 12 H. P., double opposed motor; one combination runabout with folding front seat, 16 H. P. motor; both in good order; big bargain. Adland Motor Co., 1303 Michigan Ave., Chicago.

FOR SALE—Thomas 40 H. P. 1905, in best condition; better than new; lamps, top and everything to make the most complete car in the country; am selling for no fault; price \$2,600. C. O. D., Motor Age.

FOR SALE—Olds runabout; artillery wheels, 3 in. detachable tires; good shape; large lamps, top; strong car; recently painted; fine shape; sacrifice at \$375. Address F. W. T., R. 3, Winfred, S. D.

FOR SALE—Nearly new "Queen" double cylinder, 5 passenger; run 300 miles; will sell cheap. J. J. Russell, West Branch, Iowa.

FOR SALE—Automobiles; two hundred and up; send 3 cents for cuts; castings for motors. Wm. Riggs, Wing, Ill.

FOR SALE—A Great Bargain—Pope Waverly Electric Runabout, with top—practically new—cost \$900; \$450 takes it. Reason for selling, have purchased large car. Address J. L. Schilder, Chillicothe, Ohio.

STAMP brings great bargain sheet; saves 50 per cent on new and second hand automobiles, motors, gears, bodies good line engines and machinery. I buy, sell and exchange. T. S. Culp, Canton, O.

FOR SALE—8-10 passenger wagonette; sample car 1905-6 Model; steam; price and description on application. Thompson Auto. Co., Olneyville Sq., Providence, R. I.

FOR SALE—High grade 8-h.p. double opposed engine, \$125. 4-h.p. Marine and Auto motors, \$65. Write. A. J. Houle Co., S. East St., Holyoke, Mass.

FOR SALE—Ten H. P. runabout, \$350; in first class condition. John K. Gunn, Utica, N. Y.

FOR SALE—1904 Winton; elegant condition; have bought Model A Winton. C. E. Wilkins, Dewey Hotel, Omaha, Neb.

FOR SALE—1905 Model F Cadillac; run 300 miles; good as new; cost, with extras, \$1,035; guarantee to be in first class shape; will sell for \$800. Address B. B., care MOTOR AGE.

FOR SALE—10 H. P. Franklin automobile, removable tonneau, in first class condition. Inquire of Chase, No. 7 Hendricks Block, Syracuse, N. Y.

AUTOMOBILE SCHOOL

CHICAGO SCHOOL OF MOTORING.

The original Automobile School in Chicago. We will refer you upon request to any of our ninety student graduates since Nov. 15, 1904. Automobile owners, prospective buyers and young men wanting to become expert chauffeurs will save a great deal of money and a lot of worry by studying the mechanism, care and repair of gasoline automobiles. We give thorough and practical instruction. No theory. Investigate. Competent chauffeurs supplied.

CHICAGO SCHOOL OF MOTORING.

Moved to 264 Michigan Ave.

FOR SALE—Stationary gasoline engines, 1½ H. P., \$60; 3 H. P., \$96; also castings in the rough. Send 3 cents for cuts. Wm. Riggs, Wing, Ill.

FOR SALE—Overman steam runabout, recently overhauled and in A1 condition. A very superior and reliable car. Price \$275. H. W. Beach, Montrose, Pa.

FOR SALE—Rambler runabout. A bargain. Chas. Newcomb, Huntington, Ind.

AUTOMOBILE DEALERS EVERYWHERE—We have a live proposition to offer dealers and agents in every town and city to handle our ready to deliver cape cart tops. Auto Top & Equipment Co., 1604 Broadway, New York City.

FOR SALE—Specially built 6 H. P. gasoline runabout, in good condition. Price \$225. Address A. Nier, 224 W. Isabel St., St. Paul, Minn.

TO TRADE—A small invention for Orient buckboard. Burns Hempsted, Croton, O.

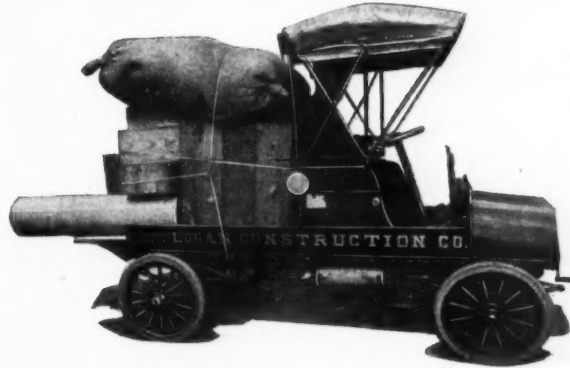
FOR SALE—Model A 1904 Cadillac. Lamps, horn, Odometer, two extra inner tubes, in fine condition. Price \$550. Want Model F. B. H. Stover, Spencer, Iowa.

FOR SALE—One 1905 four-cylinder Ford, fitted with extension top plate, glass front, large Solar head lamps. Will sell cheap. One Model L Rambler, new last Oct. Guaranteed in best of condition. One Model E Rambler runabout, A1 condition, \$350. Write for particulars. W. E. Rudy, Lima, O.

Logan Air Cooled

LIGHT DELIVERY CAR

Two-cylinder
opposed
in front
under hood



Sliding
gear
transmission,
chain drive

THAT CAR OF QUALITY

After six months' test we **know** that our 10 h. p. Light Delivery Car is an assured success 1500 pounds carrying capacity. Any style body desired. The price will interest you.

WRITE US FOR DETAILED INFORMATION

Logan Construction Co., Chillicothe, Ohio

FOR SALE—Olds 10 h. p. auto engine and transmission, complete, almost new, \$125. Cost, new, \$375. George Auto Co., George, Iowa.

FOR SALE—By owner, up-to-date 15 H. P. Panhard, with new side door, new Capetown top, curtains, new Krebs carburetor, and latest steering gear; machinery thoroughly overhauled and in A1 condition; car fully equipped, newly painted and ready for use; as good as new, fine appearance, and high-class in every way; seats five; unusual opportunity for any one wanting a first-class French car for immediate delivery. Address J. J. Scott, 7 Monroe St., Chicago, Ill.

FOR SALE—1 18 H. P. auto; G & J tires; in A1 shape; detachable tonneau; used very little; guaranteed first class running order; first reasonable cash offer takes it. Frank H. Drew Co., Cedar Rapids, Iowa.

WANTED—1904 Winton. Topeka Auto & Cycle Co., Topeka, Kan.

MANUFACTURERS wanting more capital write A. Hess, Barberton, O.

FOR SALE—Specially built runabout of 22 h. p., Buick engine, ball transmission, both practically new, car in excellent condition; \$500 takes it. A great bargain, write for details. Address P. O. Box K, Chillicothe, O.

TIRES.

ALL KINDS RUBBERINE FILLED are puncture proof; give twice the service, saving delays; resiliency retained; get sample and prices. Also new and second-hand tires. Automobile Palace, 152 W. Jackson Blvd., Chicago.

FOR SALE—Oldsmobile runabout. Write Peter DeCloux, Oconto, Wis.

Wanted Names of Automobile Owners that would rather see their tires being pumped up than do the pumping. Our **Tom Tire Pump** fits on any Standard Machine and is worked by the motor, easily attached, well tested out, all enclosed and very satisfactory. Get acquainted with it. It is something that you will like. Agents wanted.

Ngberg Automobile Works, Chicago, Ill. Fully described in Horseless Age, Feb. 1; Automobile Review, Feb. 4.

BARGAINS

80 Automobiles For Sale

CONSISTING OF

Runabouts, Broughams, Brakes, Cabs,
Landaus, Opera Buses, Wagonettes,
10, 12 and 20-Passenger Carriers,
2 and 3-Ton Trucks.

For particulars, address

WILLIAM FAY,
1614 Chemical Building, ST. LOUIS, MO.

Peru Wants New Factories

Exceptional inducements offered for good growing concerns. For particulars write to Oakdale Improvement Company, Peru, Ind.

FOR SALE—Packard Model "F," just returned after a thorough overhauling at the factory. All worn parts replaced; cylinder rebored and new piston fitted; ready to go on the road and stay there. Any one looking for a staunch and reliable touring car will find it well worth while to write for further information. H. W. Beach, Montrose, Pa.

FOR SALE—Marble Swift 15 H. P., friction transmissions; bargain; new. 729, 119 Monroe, Chicago.

FOR SALE—1905 Model G Yale automobile, built by the Kirk Mfg. Co., Toledo, O.; delivered to me in May; has not been run 200 miles; will sell cheap. E. S. Hobbs, Aurora, Ill.

FOR SALE—Haynes side-entrance surrey with top, also 1905 Imperial air-cooled runabout with top. Carl Bauman, Dayton, O.

WANT Tonneau car for 100 feet on improved street; trolley, houses adjoining. 729, 164 Dearborn st., Chicago.

FOR SALE—Gasoline double cylinder touring car, run less than 300 miles, first class condition. Price \$700. W. H. Upham, Leominster, Mass.

WANTED—8 or 10 H. P. auto engine, single cylinder. Box 159, Marshalltown, Ia.

FOR SALE—Rare bargain; Baker electric, \$250. 238 S. Wood St., Chicago, Ill.

FOR SALE—Cadillac, \$350. H. S. Moore, 160 Crawford Road, Cleveland, Ohio.

FOR SALE—One Hodgson's automobile speed meter with trip meter combined, made by the Speed Indicator Co. of Minneapolis, Minn.; new; price, \$26. M. M., care MOTOR AGE.

WANTED

A BUYER FOR TWO BAKER ELECTRICS

1 Imperial, Used 300 Miles (New Battery)
1 Runabout, Brand New (Without Battery)

BOTH OF THESE CARS FOR \$1,000 CASH

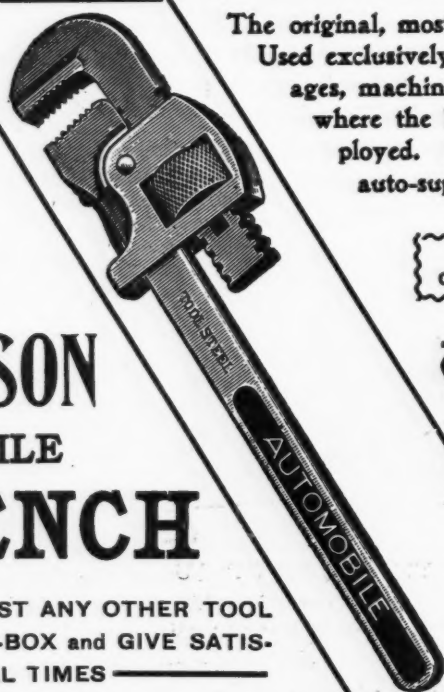
McDUFFEE AUTO CO.

1449 Michigan Ave. CHICAGO, ILL.

When
your
Auto
isn't
just
right,
use
the

STILLSON AUTOMOBILE WRENCH

IT WILL OUTLAST ANY OTHER TOOL
IN YOUR TOOL-BOX and GIVE SATIS-
FACTION AT ALL TIMES



The original, most efficient and durable.
Used exclusively in all up-to-date gar-
ages, machine shops and all places
where the best mechanics are em-
ployed. Sold by all leading
auto-supply jobbers and dealers.

WRITE FOR
CIRCULAR AND PRICES

**Walworth
Mfg. Co.**

Boston
Mass.

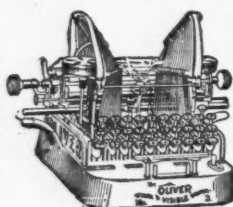
U. S. A.

We Want Agents
for the

OLIVER Typewriter

—the standard visible writer—

in cities and towns where we are not at present represented. An agency for this progressive and up-to-date typewriter carries with it a dignified and profitable position for high class men. We aid our agents to achieve success and extend their field as their development warrants. We seek to make it worth while for good men to remain with us permanently. Previous experience neither essential nor objectionable. The Oliver agency can be carried on in connection with other business in some localities. If you are the kind of man we are seeking, we will enter into details by correspondence on receipt of your inquiry.



The Oliver
Typewriter
Co.,

100-200 WABASH AVE.,
CHICAGO, ILL., U. S. A.

Foreign Office
75 Queen Victoria St.,
London, England.

HUSSEY DROP FORGINGS AND UNIVERSAL JOINTS

Used by the largest American manufacturers.
Get our estimates on all kinds of automobile work.
HUSSEY DROP FORGE & MFG. CO.
2020 Axtell Street CLEVELAND, OHIO



DROP FORGED ROD AND YOKE ENDS

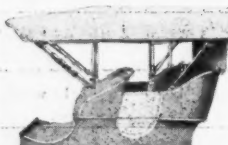
All standard sizes. Prices low in quantities. Send for list.

THE BILLINGS & SPENCER CO., Hartford, Conn.



WHEN YOU THINK SPARK PLUGS
\$1.50 THINK NEVER-MISS \$1.50
THAT'S ALL

The up-to-the-minute Jobber and
Retailer can supply you. Ask him.
There is none just as good.
Stand 1/2 in. Winton. Auto Car Metric.
Fully guaranteed.
You go faster, farther and get back
with a Never-Miss. Just try and see.
Cells, Battery Connections, Chain Tools, &c.
There are a lot of Plugs, but only one
Never-Miss, and made at Lansing, Mich.
NEVER-MISS SPARK PLUG CO.



HIGH-GRADE EXTENSION and VICTORIA TOPS

The Myers-Dayton Top Co.
1109-1111 East Fifth St.
DAYTON, O.

STEEL CASTINGS FOR AUTOMOBILES A SPECIALTY

WRITE FOR SAMPLES AND PRICES
MILWAUKEE STEEL FOUNDRY CO.
MILWAUKEE, WIS.



Well Lubricated
And Protected Bearings
Is Our Aim.

TUCKER OIL CUPS IS THE PRACTICAL RESULT

Send for Samples and Price List.

W. & F. TUCKER, Hartford, Conn.



DYKE'S AUTOMOBILE BARGAINS

PRICES REDUCED

THESE CARS MUST BE SOLD AT ONCE

Autocar with Tonneau, 1904 Model, run
only 3 months, was thoroughly over-
hauled and larger tires put on; tires new
and car looks and runs like new; tonneau
is detachable; painted green, \$700
cost \$1700. Price.....

Read Dr. Dyke's

Books on Autos

"The Anatomy

of the Auto,"

700 pages, \$2.50

"Diseases of

Gasoline Auto

and How

to Cure Them,"

200 pages, \$1.50

Cadillac, late 1903 Model, in fine con-
dition; tires all good; machinery
in perfect condition. Price....

\$375

Auto Supplies Dirt Cheap

Get our Catalogue on Supplies. Get our

Bulletin on Second-hand Cars.

Auto Exchange & Supply Co.

A. L. DYKE, Mgr. 3939 Olive St., ST. LOUIS.



THE MORaine

HIGHLAND PARK, ILL.

On high bluffs overlook-
ing Lake Michigan, 23
miles from Chicago.

Delightful
Summer Home

Garage and Repair Shop
for accommodation of
Automobilists.

Phone, Highland Park, 22.

Booklet Mailed on Application.



DIXON'S GRAPHITE Motor Lubricants

Interesting booklet
and samples FREE.

JOSEPH DIXON CRUCIBLE CO.
Jersey City, N. J.



ECLIPSE POCKET AMMETER

For General Battery Testing
0 to 20, 0 to 30 Amperes.

"Ready to use," with short, flexible
cord attached. Can be used in any
position, and works in either direc-
tion of current. Provided with a
neat kid leather case for carrying.

ELDRIDGE ELECTRIC MFG. CO.
Springfield, Mass. U. S. A.

CHICAGO and CINCINNATI

are connected by a railroad
route having finely appoint-
ed trains, day and night—
Sleepers and Parlors.

MONON--C. H. & D.

Ride this way once and
you'll ride again—we think.

Chas. H. Rockwell,
Traffic Manager

CHICAGO

Frank J. Reed,
Gen'l Pass. Agt.

ALUMINUM, PHOSPHOR BRONZE,
BEARING BRONZE AND BRASS
CASTINGS FOR AUTOMOBILES

HOFELLER BRASS FOUNDRY CO.
BUFFALO, N. Y.

The Most Complete Guide for the Touring Automobilist



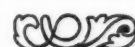
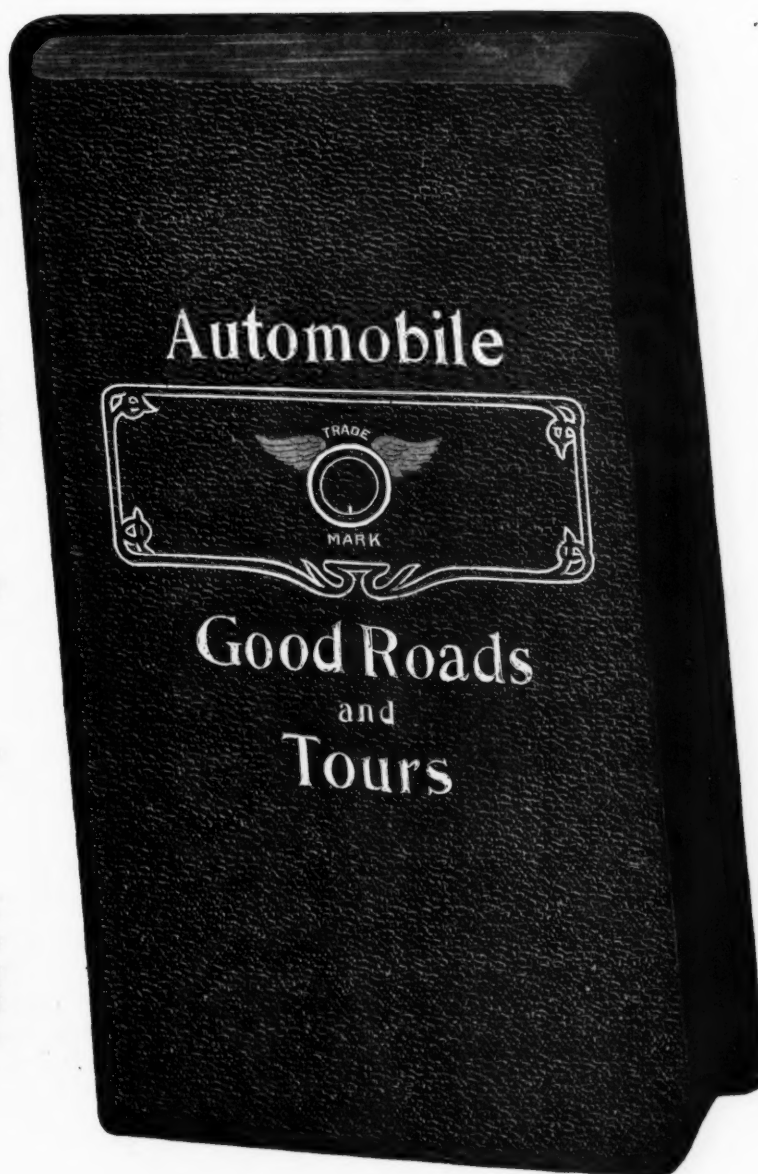
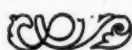
This book has
proven itself to
be a success.

Every automo-
bilist should have
a copy.

No car complete
without it.

It insures a de-
lightful trip.

It contains 400 pages.
Every page is of value
and interest in planning
your trips and will assist
in their successful termi-
nation.



Contains simple,
concise and ac-
curate directions
to the most de-
lightful tours cov-
ering the states
of Maine, New
Hampshire, Ver-
mont, Massachu-
setts, Rhode
Island, Connect-
icut, New York,
New Jersey,
Pennsylvania,
Ohio, Maryland
and District of
Columbia.



*Handsomely bound in red leather, mailed on
receipt of \$2.00 and eight cents for postage by*

The Hartford Rubber Works Company

Home Office and Factories Nos. 1 and 2, Hartford, Conn.
Factory No. 3, New Brunswick, N. J.

BRANCHES

Boston, 492 Atlantic Ave.
New York, 88 Chambers St.,
1769 Broadway,
2355 Jerome Ave.
Philadelphia, 138 No. Tenth St.

Buffalo, 686 Main St.
Kansas City, 1108 East 15th St.
San Francisco, 461 Mission St.
Cleveland, 77 Bank St.
Detroit, 256 Jefferson Ave.

Chicago, 83 Michigan Ave.
Minneapolis, 9 Sixth St. N.
St. Louis, 3964 Olive St.
Denver, 1564 Broadway.
Los Angeles, 116 East Ninth St.

Rambler



PROSPECTIVE automobile buyers seek Durability, Simplicity, Power and Style. ¶ Each of these qualities is found in the Rambler. ¶ Ramblers are durable—proved so by every test. ¶ Ramblers are simple to operate—one lever and throttle does it all. ¶ Power—Rambler horse power means Draft horse power—not plain H. P., as in many other cars. ¶ Style—men with eyesight need no description of that which their eyes behold. ¶ Price—from \$750 to \$2000. You can go as far as you like. Send for Catalogue.

BRANCHES: Boston—145 Columbus Avenue
Chicago—302-304 Wabash Avenue. Phila-
delphia—242 North Broad Street.

MAIN OFFICE AND FACTORY. . . . KENOSHA, WISCONSIN
THOMAS B. JEFFERY & COMPANY

NEW YORK AGENCY: 134 West
Thirty-eighth Street.
Representatives in all leading cities.